The Commodore Magazine For Commodore Users

Spring 1995
Vol. 4 No. 2 Issue 25

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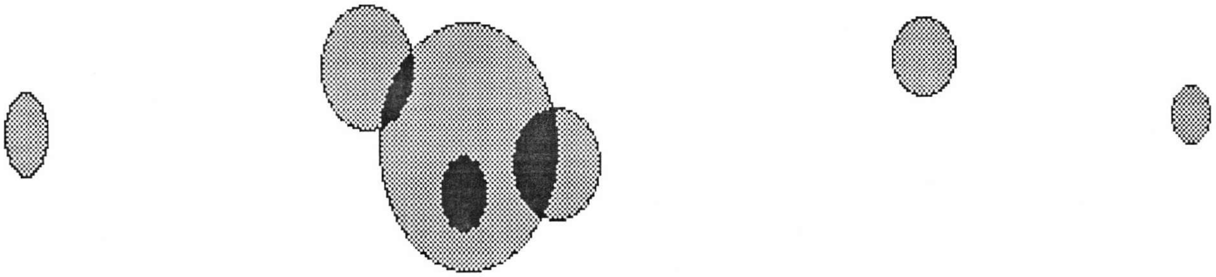
dieHard

the Flyer for commodore 8bitters

GEOS, Programming, and the New Millenium.



Commodore is Bought!

But is it back?

GEOS Hall of Fame

Dick Estel talks about some of the greatest geoGurus of all time!

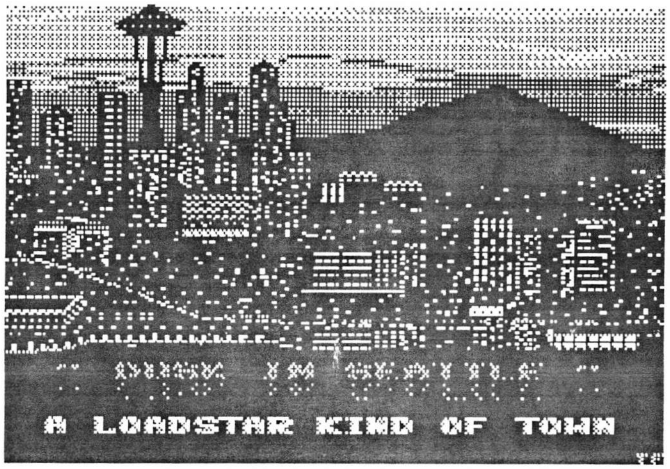
GEOS Programming

Join Nathan Fiedler as he leads us to the rarely traveled GEOS waters of Programming.

The PostScript C=

Dale Brings Us Up to Date on the Continuing revolution...

Spotlight on LOADSTAR



Reading the latest couple of issues of *LOADSTAR* (#128 & #129) reminds me of the baby dinosaur's line in the TV show *Dinosaurs*, "Gotta love me!" I received an advance copy of #129 to review *Tax Accountant 94*, but I concentrated on that and hadn't had time till the other day (when Brian dropped the disks off on my desk and said "Review these ASAP.") to really browse through the rest of the material.

I tortured myself with some of the puzzles and brain-teasers. I read a sample of the software reviews. I booted up a spiffy screen demo. I read some of the news reports.

I've gotta be honest with you, though. My favorite part of the issues were the editorials and the pseudo-news articles. Fender and Jeff seem to have an awful lot of fun putting *LOADSTAR* together, and they manage to make it fun to read, too. Some of the articles that I particularly enjoyed reminded me of some of the commercials on the old Saturday Night Live, where you often found yourself doing a double-take when the punch line came, because real TV commercials are about a half-brick shy, too.

I kept calling people in the office over to read excerpts, and we all laughed a lot that day. I only regret that I couldn't figure out a way to make Jeff's new presenter print out hardcopy for me.

There are a couple of fun SID programs, which I am sure the speakers on my 1902 don't do justice to. Roger Detaille writes on GEOS I/O drivers and the various ways to set up your system to take full advantage of GEOS.

There's a great game on #129 called Firebug. Even I, author of *Joysticks for the Compleat Klutz*, am able to get through a few levels. The concept is simple. You are a firefighter who must rescue people from a burning high-rise before the flames kill them. You must avoid the flames, which burst spontaneously from windows, and the flying geese (flying geese?).

Both of these issues are jam-packed with articles, news, reviews, games, and useful programs. I definitely won't wait so long to enjoy the next one!

READY.
■

◆

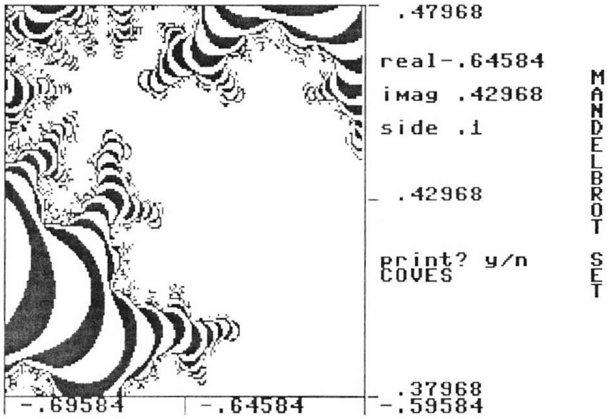
Only on the Spinner

In the Spring Spinner (affectionately referred to as Sp-Squared) we have incorporated a massive amount of mathematical programs. One of the hottest new areas of mathematics today is the field of chaos theory. Chaos theory makes use of a nifty topological concept called fractional dimensions, or fractals.

We have a number of programs by Donald Klich which use the peculiar qualities of the mandelbrot set to generate incredible fractal bitmaps. They are written for the C128, and come in both monochrome and color versions. These programs are accompanied by several pre-generated pictures that load really quickly. You can zoom in on areeas of interest within the pictures and, after a while, you will have a whole new bitmapped fractal to play with.

Auran Shagan appears again with a number of his geometric shape bitmap generators. There's also a bitmap merger that will merge up to three bitmap files in screen memory into a single bitmap, a bitmap rotator, and a bitmap warper. He's also provide us with a program that solves for unknown properties in equations governing VanderWaals gasses.

With the fishing and waterskiing season coming on rapidly, those of you with outboard motors will be glad to see a program by C. A. Smithe which calculates the proper amount of oil to add for a specified oil/fuel ratio. There's also a program to help you mix concrete for that new patio, and one to help out with determining belt and pulley sizes. We also included the full-featured version of our line removal program for the C64, a relative file bug demo, and a version of the Line Up Four game for the C128.



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COVES

READY.
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CMD ad
do NOT use this page!

View From The Underground
By
Brian L Crosthwaite

Well, things have been more than just a little hectic around here. I've just accepted the fact that things are not going to slow down in the office. There are so many things happening, sometimes I can't see straight! We have a new Assistant Editor, Jon Steel -- welcome aboard Jon! He is new to commodores, but not to computers, and he's a real go-getter.

I hope you don't feel like your letters have gone unread. There are just so many hours in the day; not enough. We read all the letters we receive. I wish we had time to respond to each and every one. In the old days, Mia and I did just that. We had around 40 or 50 readers back then, and there seemed to be more hours in the day. I hope that you, the *dieHard* reader, understand.

I haven't given up hope that things will someday get better time-wise, I've accepted that this is always going to be a busy job. True, having two people working on *dieHard* as a bi-monthly magazine should help us to put the magazine out in a reasonable time with the quality you've come to expect.

My office is brimming over with submissions, but we are trying to keep on top of them as they come in. We have had so much coming in that it will be no problem filling up the Spinner with its own articles. That's right -- the Spinner has its own articles not found in the Flyer. This month we launch a new column on Mathematical Graphics. Check out the Spinner section for more details.

CP/M is a hot item for commodore users. If you have a C128/D, you are all set to use this powerful mode (you do need the C128 CP/M system disk). We have a new CP/M column starting in the Flyer.

Natasha Mia Crosthwaite was born on December 20, 1994 at 3:39 am. She comes into work with me on most Mondays, Wednesdays and Fridays while Antony goes off to preschool. I am a full-time Dad once again. I do enjoy it. With the new bi-monthly schedule, it'll be like starting over again.

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READY.
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GGGEEEEEEEEE

Editor-in-Chief: Brian L Crosthwaite
Managing Editor: Mia C. Crosthwaite
Asstant Editor: Jon R. Steel
Advertising: Leah Hart

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The New Millenium.

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dieHard

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GEOS, Programming, and the New Millenium

It's Tax Time!!
REVIEW! takes a look at what it takes to get through it!

GEOS Hall of Fame
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Dale Brings Us Up to Date on the Continuing revolution...

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ESCOM buys Commodore!

Well, it looks as if the final chapter (one greater than 11) can be written in the Commodore saga at last. Escom AG obtained the rights to all intellecutal property, technology, trademarks, and patents of Commodore and Amiga at auction in New York on May 20th.

The technology of the Commodore group is considered in expert circles to be the key technology for the future multimedia market. With this purchase, Escom can become the leading provider of multimedia technology in eastern Europe. It is rumoured that a partnership with Tianjin Multimedia Company of the People's Republic of China is in the works to distribute Amigas and to produce 16 bit game machines and TV set-top boxes to gain market share in the far East.

Headquarters for the new company, a daughter company of Escom, will be in Heppenheim, Germany. At least one subsidiary will be established in the Netherlands for European distribution and sales, while no decisions have been made regarding subsidiaries in the UK, USA, and Canada. The name of the new company has not been determined, but is expected to be "Amiga-Commodore" or something simple and similar.

Dr. Peter Kittel, a veteran with 11 years in Commodores engineering department, will be world-wide head of engineering for the new company. The primary goals of engineering for the new company, according to Dr. Kittel, will be to get the latest Amiga models back into production, get the worldwide distribution system for products and parts back up to speed, and get communication lines between the new company and Amiga developers opened up and flowing smoothly.

Future directions for the new company should include the development of porting to RISC platforms, such as PPC or HP PA RISC, and possible redesign of the external case for the Amiga 4000. New developments will have to take a back seat to re-establishing manufacturing and distribution of current products for a while, as R&D delays at this point would be prohibitive. Escom has decided to be very liberal in terms of licensing arrangements, so that anyone who wants to build Amiga laptops, set-top boxes, etc. can get chips and operating systems to do so.

READY.
■

INPUT;READER$

I have noticed that you have received quite a few requests for suppliers of ribbons for commodore printers. Most every small town has a Radio Shack.

The ribbon used in the RS DMP 100 & LPVII, (#26-1424), works very nicely in my 1525. It also fits the 1515, Axiom GP-80M & GP-100, Gorilla Banana and Seikosha GP-80 & GP-100.

The one for the RS DMP 110, (#26-1283A), fits the MPS-801, the Comrex CR-220, and possibly more.

Prices are reasonable, and with the stores being local, there's no S/H charges. The Force be with you, and keep this great magazine coming! Ron Bussing of Ballston Spa, New York

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First, I must express my appreciation for dieHard and all other publications which still serve the commodore community. We are alive and well and joyfully computing (most of the time).

I just perused the October issue of *PC Computing*, and I was flabbergasted and amused to find 60+ pages devoted to improving Windows 3.1. The extended section began with "Want to gripe about Windows 3.1? Take a number. It's too hard to use, too slow, and it crashes at the drop of an API. You can't automate anything, and getting it to work with a network takes an advanced technical degree or witchcraft..." This is the advanced system for which people should give up their friendly, enjoyable commodores? That's progress!

No one is going to contend that the 8-bit is the end all of computing, but it is hard to find tasks it won't do for the home, school, or small business. As an interested observer, I will throw in my two cents worth about the Commodore fiasco. I truly believe that an aggressive company could take the Commodore technology and could make successful 8-bits again. An updated 64 packaged with a drive, monitor, mouse, and GEOS selling for about $600 could, in my opinion, sell millions. The productive simplicity of these machines would sell, not only to newcomers to computing, but to frustrated Windows and Mac users as well.

That's my opinion. I don't have any money to back it up, though. Another thing -- I think a portable 8-bit would sell in the millions as well. If an internal drive (3 1/2") could be incorporated with a nice screen, again, I think it would be very marketable.

So much for my opinions. Many serviceable, useful items have been discarded in the name of progress. Seldom do we go back and embrace them again. The 8-bits will still be around for decades to come, and users will still be satisfied with them. Larry House of Christopher, Illinois

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In the September issue, Julian Day offered a subroutine for adding trailing zeroes when printing financial values. The nice thing about Commodore BASIC is that short versions of long subroutines can oft times be concocted. To wit, this quick and dirty printout formatter for the 64 and 128:

```
1 Z$(1)="0":REM LEADING ZERO FOR
   AMOUNTS <$1.00
10 INPUTV:X$=MID$(STR$(V+.001),2)
   :X$=Z$(-(V<1))+LEFT$(X$
   ,LEN(X$)-1)
20 IF LEN(X$)>6 THEN X$=LEFT$(X$
   ,LEN(X$)-6)+","+ RIGHT$(X$,6)
30 PRINT "$"X$
```

In line 10, the amount is entered and converted to a string. The addition,

dieHard the Flyer for commodore 8bitters is written and compiled on **commodore** 8bit equipment. It is then typeset on a C128D computer using **geoPublish**. The system consists of a **commodore 128D** personal computer with an internal 1571, external HD-85, and FD-4000 disk drives, a **commodore MPS 1270** inkjet printer with a CARD?+G parallel interface, an HP LaserJet 4ML with CMD's geoCable compatible cable, a **commodore 1670** modem, a CMD RAMLink with 1 Meg RAM, a **commodore Datassette**, M-3 mouse, AMIGA 1080 80/40 column RGBI/composite monitor and a **commodore model 1701** 40 column monitor. Our masters are printed inhouse on the HP LaserJet 4ML with **GEOPUBLASER1.8**..

"V+.001", provides the trailing zeroes for X$ as required. The sign ("-" or assumed "+") is deleted to allow a dollar sign immediately before the number, as in line 30. "Z$(-(V<1))" prints the "0" from line 1 if the value is less than $1.00 (e.g. $0.95), and the final "1" from the addition is deleted. As an option, line 20 adds a comma following the thousands digit, but the line can be omitted.

The result is a number with two decimal places regardless of the input value. It's assumed that monetary values will not require more than two decimal places, so truncation is not included. It typically involves converting to an integer and back to floating point, which can result in unexpected errors that are intolerable in financial programs.

As a final note, if it's desired to convert a program listing for use with a word processor, use the sequence below in direct mode to "list" the program on a disk as a sequential file (drive 8 is assumed; "file" can be any legal filename; be sure the "W" is within the quotes):

```
OPEN 2,8,2,"file,W":CMD2:LIST
```

Once the disk drive stops (light stays on), type in CLOSE 2, which will close the file. The READY. prompt will also be in the file, but it can be deleted. Note that the listing will be in small letters, although most decent WPs can capitalize a range if it's deemed necessary. Bob Reanaud of Washington, Maine.

Thanks for the info!

While this does work, leaving out the S confused my JiffyDOS system. It is a good idea to use ,S,W to denote a sequential file. A reset brought it back and the file was good. Also, it's a good habit to PRINT#2:CLOSE2 so the file has a delimited ending. That's how PRG gets into each issue of dieHard.

Sometime back you published a letter from, I think it was, an M.D. on how to order hard-to-get items through Radio Shack and pay the regular price plus shipping. My Ph.D. does not allow me to be so free with money. If you call (800) 231-3680 you get a Radio Shack Franchise Mail Order shop in Houston. It's best if you already know the catalogue number. They give a discount -- I got about 10% off on a $150 item in December '93 and shipped it to a different address. And they do not charge for shipping.

P.S Your addiction to fancy printing makes your magazine more difficult to read. Edward E. Chambers of Cayucos, California

We do sometimes use LW_Ginnini in articles. LW_Roma is the font of choice in most cases. All other fonts are used only in titles.

Have you people ever considered printing the contents of dieHard just a little farther from centerline or centerfold than you do?

I like to punch my copies, inserting them in a three-hole binder. But first, I have to go through the whole mag with a template, handwriting those words, and those parts of programs in the margin that I will punch out. Programs, especially, can be really hard to figure out, if I forget and leave half a word on the floor, instead of writing it in the margin ahead of time.

You DO say that you can't respond personally to questions, but this is a different kind of question, and I am hoping that you will HANDWRITE the answer, or comments on the extra letter copy enclosed (and get a feel for what I must do with EVERY WHOLE MAGAZINE) and will consider using the pre-addressed, pre-stamped envelope enclosed. Thanks. Joseph A. Baska of Merriam, Kansas

Although it is not our usual policy to answer letters to INPUT; READER$, there comes a time in the life of any editor when he or she feels compelled to take an editorial moral stance. This, dear reader, is such a time!

We found it difficult to believe that any serious collector of dieHard, such as yourself, could consider defacing his back issues in such a blatant, even sacreligious, manner. We spoke with the auctioneer at Sotheby's, and he informed us that deliberately inflicted damage could seriously impact the selling price of those classic masterpieces. Our Ethics Commission, after considerable debate, determined that we could not, in good conscience, act in such manner as to encourage these deviant practices. So, we regret to inform Mr. Baska that the margins must stand.

READY.

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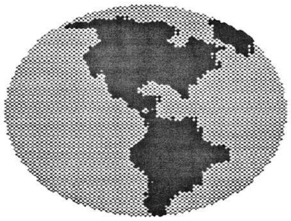
Mother's Day

Sodak ad
remove this
text

Yanny ad
remove this



GEOS Hall

From humble beginnings in 1985, GEOS has become the operating system of choice for many commodore users, and the reason why many people stick with the 8-bit 64 and 128 long after their "official" obsolescence.

Guarded comments and nearly legendary reports of the early days of GEOS indicate it was slow, hard to use, and prone to crash spectacularly, usually after the user had devoted many hours of work to a project.

Today we have GEOS 2.0 (both 64 and 128) with all the truly annoying bugs squashed flat. We have ways to make GEOS faster than any of its early beta testers could have imagined. We have dozens of third party programs to make it easier to use, and to let us do things the designers of the commodore machines never dreamed could be done.

To whom do we owe our thanks for this blissful situation? Why, the members of the GEOS Hall of Fame, of course. Acting as both nominating and selecting committees, I have compiled this tribute to some of the people who helped make GEOS what it is today.

First, a disclaimer: I know this article will generate letters saying "How could you overlook (insert name here)!" I welcome additional nominations. I'm not familiar with EVERY person who's made a significant contribution to GEOS. The ever-changing nature of computer work almost guarantees that I'll forget about someone I *do* know about. My sincere apologies to anyone I've overlooked. I'd like to see names added every year as long as the last C64 or C128 is still sending eight bits out the serial bus.

BRIAN DOUGHERTY:

Founder of Berkeley Softworks, his original vision was for a computer built into the seat tray on airliners. When deregulation of the airline industry and the resulting competitive situation put an end to this plan, he turned to creating a point and click operating system for the computer brand with the largest installed base -- commodore.

MYSTIC JIM:

A name nearly lost in the mists of GEOS antiquity, Mystic Jim was one of the very first persons known for third party GEOS programs. He developed a way to eliminate BSW's notorious copy-protection, allowing users to make backup copies of their fragile early versions of GEOS. At one time he offered a series of shareware disks with fonts and assorted GEOS utility programs. Around 1988, people sending for his disks started reporting no response. His whereabouts were a topic of much speculation on Quantum-Link (Q-Link). I have never heard what happened to him, or what his real name is.

PETER & PAUL HUGHES:

Best known for their work as SYSOPs on Q-Link in both GEOS and other commodore graphics, the Hughes twins were among the first on the GEOS bandwagon, traveling around their part of the country giving demos and generally promoting GEOS in its very early days.

JOE BUCKLEY (aka RED STORM):

The guru of GEOS conversion programs. He created **Graphic Storm** and the commercial variation **Import Runner**, which allows the conversion of **Doodle**, **Koala** and other graphic formats into GEOS. His **Wrong is Write** is still the definitive text conversion utility for transfer between all versions of **geoWrite** as well as standard and PET ASCII. When the Handyscanner became available a few years ago, Joe promptly wrote and uploaded the shareware conversion program, **Handy Import**.

ROGER LEDBETTER:

Perhaps a controversial choice, but only because the first full-scale magazine devoted to GEOS, *geoWorld*, disappeared with a whimper instead of a bang. In the end, lacking time to devote to the publication, Roger turned it over to editors who had too many of their own irons in the fire.

DENNIS SEITZ:

His name will be unfamiliar to many, but Dennis is the author of **PaintScrap**, still the best program available for copying photo scraps larger than the drawing window. Others made important contributions in this area, but none achieved the programming elegance and ease of use that Dennis gave us in **PaintScrap**.

SUSAN LAMB:

Another hall of famer whose disappearance from the GEOS scene was not worthy of her contributions, Susan created a legacy of fonts and artwork, and shared information on working with large fonts through *geoWorld* and other channels.

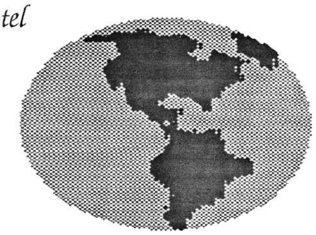
DAVID FERGUSON (aka DeBeif and geoRepDave on Q-Link):

Dave produced a number of quality programs for GEOS. His election to the Hall is primarily for **New Tools**, which allows unique

Micro Storm
ad
remove this
text

# of Fame

by Dick Estel



manipulations of graphic images in **geoPaint**.

GEORGE WELLS:

In a recent *Compute Gazette* article, Steve Vander Ark described his search for the perfect printer driver. "If I was really lucky, I would find a driver by George Wells, the printer driver wizard on Q-Link. His drivers are clearly the best around." That says it all.

JIM COLLETTE:

I could devote a whole article to the accomplishments of this amazing young man. His earliest work was a font editor which evolved into the best one available. His masterpiece is **geoWizard**, the program that lets you jump out of the program you're working in, load another program, then return to the first program exactly where you left it. Jim wrote the version of **Configure** that makes it possible to use the one and two meg expanded REUs, and too many other things to list here.

CREATIVE MICRO DESIGNS:

Their **RAMLink**, hard drives, 1581-compatible floppy drives and dedicated support have given new life to GEOS and to **commodores** in general.

JEAN F. MAJOR:

I could no longer handle GEOS without **DBGetFiles**, the auto-exec file that eliminates the 16-file limit and one-click-at-a-time scrolling through the dialog box.

IN MEMORIAM:

Sadly, there is a place to honor GEOS programmers who have passed on. Michael Myers created **Album Copy**, which transfers pictures from one album to another, and **ScrapGrab**, which pulls a photo scrap from an album on any drive and saves it to your current disk. Michael had muscular dystrophy and passed away in October 1993.

FUTURE NOMINEES:

All of the following have done important work for GEOS. In some cases, their greatest contributions may be yet to come, or time is needed to further evaluate their work. While many of those elected to the Hall remain involved with GEOS, these are some of the active players I consider shoe-ins for future selection:

IRV COBB -- **Autorunner** and other programs. BRIAN L CROSTHWAITE -- ***dieHard**, the Flyer for commodore 8 bitters.* NATE FIEDLER -- **GeoCanvas**, assorted utilities. JOHN F. HOWARD -- **GeoList** and other utilities. PAUL MURDAUGH -- **Dual Top**, games and utilities. MAURICE RANDALL -- **GeoShell**, 128 publishing program in progress.

Next time you're wandering through cyberspace, take a short detour and pay your respects at the GEOS Hall of Fame.

READY.
■

Computer Bargain Store ad
remover this text!

Rarities

with R. Scot Derrer

User Groups

Here are more additions to our ever-expanding list of active **commodore** user groups. It just goes to show it's not who makes the computers, but who uses them that's important. A fairly obvious observation in this case.

Commodore Hayward Users Group / C=HUG
PO Box 404
Fremont, CA 94537

Southeast San Diego C.U.G.
258 Euclid Ave. Suite B
San Diego, CA 92114-3640
Fax/ph: (619)262-4456

Southbay C.U.G.
PO Box 1899
Chula Vista, CA 91912-1899

Club 64
PO Box 514
Patton, CA 92369

Southwest Regional Association of
Programmers /64 & 128 / SWRAP
PO Box 342
Bedford Park, IL 60499-0342

Quad Cities Computer Society / QCS,
Commodore S.I.G.
PO Box 2456
Davenport, IA 52809-2456

Commodore Users Group of Springfield /
CUGOS
PO Box 607
Springfield, MO 65803

Concord-Manchester Users Group
23 Monroe St.
Concord, NH 03301-3617

Astoria Commodore Users Group
4 Halsy Apt. 4
Astoria, OR 97103

Andor House announces a major upgrade to their **Reference Shelf** program. This disk contains Computer Terms and Mini Cyc 64 and is a wonderful reference work on computers. Also there is a new release called **Keyboard Images** that makes drawing graphics easy using keyboard graphics. I would personally recommend any of Dan's disks. They are of excellent quality and very useful. Here is a complete listing of available disks:

- Background Music
- Congress and the President
- Custom Titles
    - French Phrases
    - Keyboard Animation
    - Keyboard Images
    - The Makers -- includes
        - Format Maker
        - Screen Maker
        - Sketch Maker
        - Movie Maker
        - Tone Maker
        - Noise Maker
    - Natural Language
    - Poems From Life
    - Reference Shelf -- includes
        - Computer Terms
        - Mini Cyc 64
    - Simple Sound
    - Spanish Phrases

All Andor House disks are $4.95 each plus $1.00 shipping and handling (USA) or $2.00 (not USA). Either write for a catalog or make checks or money orders payable to:

Dan Radler
Andor House Disks
3907 SE Second Ave.
Cape Coral, FL 33904

Simply Out Of This Country...

Mrs. Jane M. Jones of JMV Grafix in Australia has an extraordinary catalogue of GEOS publications, programmes, graphics, and scanning services. All of the publications are exhaustingly complete in their subject matter and completely done using **geoPublish**. I have had the good fortune of receiving two of her manuals, *The World of GEOS Handbooks II & III*, for review and am impressed. Everything you need to know about using GEOS is in these manuals. They are much better and more thorough than the older Berkeley documentation and definitely fill a need. Experienced GEOS users can even learn a thing or two. My only suggestions would be either a better choice of fonts and/or utilizing the Postscript capabilites to a laser printer. Otherwise, these are close to perfection. Here is a complete listing of Jane's products and services:

Handbooks (Prices include P&H)

GEOS In Review	$15.00
The Handbook of Commodore Disks	$15.00
The Handbook of the Commodore 64	$15.00
The Handbook of the Commodore 128	$15.00
The World of GEOS Handbook w/disk	$15.00
The World of GEOS Handbook II	$15.00
The World of GEOS Handbook III	$15.00

GEOS Graphics

Card Art Series	$20.00
Card Art Series 2	$20.00
Clip Art Series - (9 geoPaint pages)	
first two pages	$25.00
after first 2 pages add	$5.00 per page

Pet & Herb Series discontinued - inquiries welcome.
Scanning & Custom Graphic Artwork services are also available.

If you send for a catalogue, please include a SASE with sufficient ($2) postage. When ordering try to send payment using AUD Bank Notes. Local banks usually can handle the conversion or can refer you to someone who can.

Make payment to:

Mrs. Jane M. Jones
c/o JMV Grafix
PO Box 635
Blair Athol 5084
South Australia

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READY.
■
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dieHard

the Flyer for commodore 8bitters

Each issue of *dieHard* comes packed with information to make your **commodore** work better for you and help keep you connected to other **commodore** dieHards. Here's what you'll get with your subscription to *dieHard*:

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REVIEW!

geoPrint, **geoLabel 128** or **64** and **superBox**

SoftSide Supply

reviewed by Noel Plank

geoPrint

In the past, when you wanted to be creative with your C64, you would load up either **PrintMaster** or **The Print Shop** software in order to make your own personalized greeting cards and banners. These programs are very easy to use and master (see **Print Shop** review in December 1993 issue of *dieHard*). The problem with using these types of programs is that only a limited number of graphics and fonts are available to use within your design. With all the thousands of graphics and hundreds of fonts now available for the GEOS environment, wouldn't it be nice if you could use these in a custom creation?

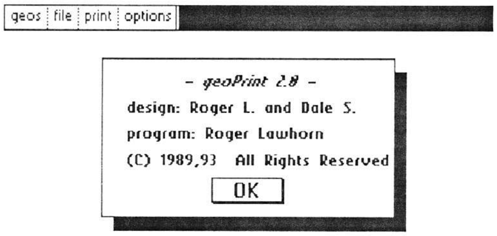
Well, now you can with the **geoPrint** program by SoftSide Supply and GEOS 2.0 installed on your commodore computer. Not only can you use fonts and graphics readily available but you can even modify, design or move things around within the **geoPaint** portion of GEOS. **geoPrint** then allows you to design your own greeting cards and banners within a small screen area. A full-page design on a C64 would normally require moving the **geoPaint** screen a total of 15 different times. However, when using the Printform templates of **geoPrint**, you need only to switch between two screens to create the same poster. The advantage here, of course, is how quickly and easily you can now make changes within the flexibility of the GEOS environment.

geoPrint is really a two-step process. First, you custom design your own creation within the **geoPaint** portion of GEOS. Next, the printing process of the program begins that will even allow you to flip and enlarge your work as necessary.

Designing using **geoPaint** or **geoPaint 128** from GEOS and the Printform A option from **geoPrint** helps you set up the proper guidelines required for a banner or poster. A greeting card may be created using the Printform B option, and Printform C may be used to print a WallPoster.

When designing a WallPoster, remember it is really based upon the banner concept, soPrintform A should be selected first. When you make a banner from a portion of a **geoPaint** document using the Printform A option, you can also arrange another banner below the original to form a super Giant poster.

GEOS 2.0 users also have the advantage of using **Paint Drivers** to enhance posters and greeting cards by following procedures in the GEOS 2.0 manual for **Paint Drivers**. For example, you can produce greeting cards with real-sized fonts but you must first place these graphics for your design in the greeting card area of Printform B. Next, print it out using a Print Driver from GEOS 2.0, which will convert your greeting card using full-sized fonts.



– *geoPrint 2.0* –

design: Roger L. and Dale S.

program: Roger Lawhorn

(C) 1989,93 All Rights Reserved

If you own an Epson/IBM compatible printer you may also use the Epson FX-60.DBL or the Epson FX-80.DBL printer drivers included on the program disk to print your application in double-strike mode.

geoPrint will allow the use of either 80 dots per inch (dpi) or 60 dpi printers when used with the appropriate printer drivers provided on the program disk. However, the **geoPrint** application and your own design must be in a **geoPaint** file format to print. After the design process is completed within **geoPaint**, this application will no longer be needed. You can now open **geoPrint** and click on the print option to open a sub-menu. The sub-menu now offers you a choice between printing a banner, a horizontal poster, a vertical poster, a greeting card, or even a giant poster.

After you have chosen your option, a dialog box appears requesting you to select a unique filename. Click on the filename with that design and then click on the OPEN command. If you choose a banner or giant poster, you also receive further prompts for other options.

There isn't a manual for the software, but documentation is provided on the program disk in a four-page **geoWrite** document. You should first print a hard copy to help you learn how to use **geoPrint**. Aside from a few typos, the instructions are clear and easy to understand.

geoLabel 64 or 128 V1.3

geoLabel for C64 or 128 is a customized graphic label printer program in which you design labels using either data you input manually or directly from within **geoFile**. The program also includes special printer drivers to produce double strike for a darker print-out. If you own an Epson FX-80 compatible printer, you can also take advantage of its sharper 90 dpi printing by using another special printer driver.

geoLabel will directly read most **geoWrite** documents. It can also use **geoMerge** data files and extract information from each record to print a label. You don't necessarily need to have **geoFile** to use **geoLabel**, but it helps. Without it you must enter data such as "FIRSTNAME", "LASTNAME", "ADDRESS", "CITY", "STATE", and "ZIP" manually, then close eachrecord with an asterisk, creating a **geoWrite** file with a few short lines of text.

There is a lot more to **geoLabel** and, at times, it does seem confusing. It has many options, and adjustments are required to make the final printout correct. If you just need a quick label to place on a letter or package, then you will probably not want to bother with all of **geoLabel**'s adjustment procedures. While making a label, you will see a rectangle referred to as the actual "frame" or "layout platform" for a label in the center of the screen. It shows the current size of the label you are designing and may be adjusted by clicking on the outline of the frame area.

There is an INCHES box in the lower right-hand corner of the screen that is updated each time the frame sizing is adjusted, showing the label's actual size on an 80 dpi printer. If you are using a different type of printer, you may change adjustment settings by selecting printer parameters from the options menu. You can re-adjust the dots per inch horizontally and vertically, changing the rulers on the screen automatically to reflect your adjustments in 1/4 inch increments.

Now the options begin! You can add a special message to each label -- such as "MAGNETIC MEDIA" -- with the Text Scrap icon, or place a photo of a diskette from the Photo Scrap icon on the label by pasting this graphic into the frame.

Documentation is included on the diskette. Though it doesn't include an index, it does have a two-page TroubleShooting section, as well as a DOs and DON'Ts page on avoiding the common pitfalls of **geoLabel.** The instructions may seem confusing at first, but this program has many special features.

superBox

superBox is a filebox upgrade for GEOS 2.0 for users with REUs (RAM Expansion Units). With the **superBox** patch to the GEOS kernal, you can select from 250 files instead of just the normal GEOS 15 file limit. It also increases speed of file access on the disk.

superBox requires: GEOS 2.0 for the C64 or C128, a 1764, 1750, GEORAM or compatible REU cartridge. (Not Compatible with RAMLink)

superBox uses an AUTOEXEC file that loads itself in the REU automatically when you boot up GEOS. Inside the REU is a 30K section set aside for the routine that moves data within the GEOS operating system. This upgraded "MoveData" routine will now move huge amounts of data quickly inside the REU. **superBox** is also stored in the upper part of the DMA, where it is relatively safe. Two different versions of the **superBox** programs are provided for the C64 or 128 computer. One program version will actually turn off the DMA flag, insuring that this area is protected while the "NEW" version series will keep the DMA flag area open for other files.

In order to make use of **superBox,** you must first decide which version you want to use within the GEOS environment. These include SUPERBOX 64, SUPERBOX 64.NEW, SUPERBOX 128 and SUPERBOX 128.NEW. The documentation states that the **superBox** programs should work with any REU because it uses routines that are built into the CONFIGURE file. Even though the CONFIGURE file is different for every system and version of GEOS, the routine **superBox** uses will always be at the same memory location and will convert data to fit your RAM expansion. If you do select the "NEW" versions, beware of possible problems, even though **superBox** can normally co-exist with other files within this memory area.

Certain programs will not run with **superBox**, including **geoWizard** and **SUPER DEBUGGER**, because of the conflict of placing the kernal patches of both programs inside the same 30K "MoveData" section of RAM locations.

It also does not work with the **RAMLink**, even if you have the REU plugged into the RAM Port and the NORMAL/DIRECT switch is in the DIRECT position. It will just give you a "RAM NOT PRESENT" error message when you select the "patch kernal" option from within the file menu in the **superBox** program. (According to CMD, Inc., this incompatibility is probably due to the fact that certain bus lines are not connected to the REU in the Ram Port of RAMLink.)

To install **superBox**, you must first copy the version you want to use with your system onto your GEOS boot disk, making sure SuperBox is placed after the CONFIGURE file on the **deskTop** notepad screen. This ensures that the CONFIGURE file is addressed first and that **superBox** will be executed later on in the booting up process.

Double-click on **superBox** from the **deskTop**, then select and set the file limit option (i.e., the maximum number of files that are to be recognized on a particular disk), with the write protect tab removed from the system diskette. After replacing the write protect tab and booting up the system disk, the filebox area should pop up, indicating **superBox** is active on your GEOS system.

The REBOOT Option within GEOS will allow this function to work only in the C64 version but not the C128 version because of conflicts in this DMA memory area. The only way around this problem on a C128 would be to make a special boot disk just for the **superBox** option when you are addressing many files at one time.

Conclusion

Along with all these programs are new special printer drivers and even a FontViewer program that lets you view any of the first 12 fonts on a particular graphics disk.

Even though a lot of time and effort has gone into the design aspect of these programs, better printed documentation would have really improved the overall product. I suspect the documentation was supplied only in the disk format to keep the overall cost of the program down. If you are really into GEOS applications, this product does provide an amazing number of features for a reasonable price.

READY.
■

geoPrint, **geoLabel 128** or **64** and **superBox**

Developed by:
SoftSide Supply
K. Dale Sidebottom
1001 Estate Circle
Georgetown, IN 47122
(812) 951-3588

Roger Lawhorn
315 Mac Arthur Drive
New Albany, IN 47150
(812) 945-2425

Tax Stuff

reviewed by Jon R. Steel

As the tax season rapidly approaches (seems to happen sooner every year), once again it is time for our review of the tax software available for C= machines. Personally, I find the whole process of filling out tax forms a bit distasteful, and I think that, with all the data he has in his voluminous files on each and every one of us, Big Brother ought to just send us a bill or a

REVIEW!

check every year on April 15th and forego all this bother. Dream on, right?

Just to let you know what my slant on tax software is, I suppose I should preface my reviews by saying that my own taxes are usually pretty simple to calculate. My wife and I once filled out a form 1040 with all its accompaniments, and discovered (after 5 or 6 hours of paper shuffling) that we didn't have enough expenses to bother with itemizing, so we've either filled out a 1040A or 1040EZ ever since. The only use I've really ever seen for a tax program is in running "what if?" projections (What if we put another $500 in the IRA? What if we changed our W-4 exemptions? etc.).. With that in mind, let's get this show on the road.

Tax Master

Available from:Master Software
6 Hillery Court
Randallstown, MD
21133
(410) 922-2962
Price: $32.00 plus $2.00 shipping
Upgrade: $10 coupon for 1995 version

Tax Master is a C64 (or C128 in 64 mode) tax preparation program that guides you through the completion of Forms 1040 and 4562, and schedules A through F. It works on computers with a single disk drive, two single disk drives, or a dual drive, and provides output to diskette, screen or printer. Each section of the program is menu-driven, allowing you to:

☐ enter data from the keyboard or disk.
☐ correct or change previously entered data.
☐ automatically calculate your tax or refund.

A 14-page operating manual is included in Tax Master, but I found that it was nearly unnecessary, as all I needed to do was pop the diskette in the drive, then LOAD and RUN "Tax Master" on the C64 and 128. I tried loading the program on the C128 in 64 mode, and on the C64 with several fast load cartridges. The initial loading of the program only takes 13 to 17 seconds by any method, but, after selecting a choice of forms or schedules from the main menu, loading the subroutine for the schedule took a minute and 15 seconds on the 128, and only 15 seconds on the 64 with a Mach 5 cartridge. From there on out, all of the screens come up quickly, and data entry goes pretty fast.

Tax Master includes a built-in calculator that you can access anytime by pressing <Shift> + <Control> + <F7>. This is handy for doing calculations on the IRS worksheets, or for adding up W-2s or expenses. Results from the calculator can be transferred directly to the current field of the program by simply pressing <Shift> + <Control> + <F7>. This feature is really handy!

The order in which Tax Master requests the information is different from the order of the lines on the 1040, but each line number is referenced at the appropriate field. Though Tax Master doesn't really make provisions for "what if?" projections, if you make a note of the line number that you're thinking about adjusting, then you can return to that field later and change your entry to see what the results would be.

Tax Master won't print directly to your IRS forms, but both the screen display and the hardcopy printout are easy to follow and list IRS form line numbers so that you can transfer the information efficiently. If I had a lot of different sources of income, needed to itemize expenses, depreciate business property, or any of the many things real people do, I think Tax Master would be a good choice.

Forms Supported

	Tax Survival Kit	Tax Master	Tax Accountant	Tax Perfect
1040	X	X	X	X
1040A			X	X
1040EZ			X	
Schedule A	X	X	X	X
Schedule B	X	X		X
Schedule C	X	X	X	X
Schedule D	X	X		X
Schedule E	X	X		X
Schedule F	X	X		X*
Schedule R				X*
Schedule SE	X		X	X
Schedule EIC				X*
Schedule EIC-A				X
Schedules 1-3				X
Form 2106	X			X*
Form 2119				X*
Form 2210				X*
Form 2441	X			X
Form 3800				X*
Form 3903	X			X
Form 4136				X*
Form 4255				X*
Form 4562		X		X
Form 4684				X*
Form 6251				X
Form 8615				X
Form 8815				X

*C128 Version only.

Tax Survival Kit

Available from:Harv Harris
981 Brownthrush
Wichita, KS 67212
(316) 722-7073
Price:$30.00 individual
$60.00 user group
Upgrade:No upgrade package

Tax Survival Kit is a program that supports the 1040, Schedules A through F and SE, and Forms 2106, 2441, and 3903. C64 and C128 versions are available with support for one drive only. Kansas residents will find their Kansas returns accessible from either version.

This is one of those intuitive, touchie-feelie kind of programs that I really

REVIEW!

like. The diskette Harv sent me had a nifty program to print the documentation in hardcopy or to the screen. I didn't notice this before I started, and I just ran the program on my 128 (totally clueless). However, I didn't really notice the lack at the time, and it only took me about 15 minutes or so to zip through a simple 1040 form.

The screens in the program prompt you for the information in the same order as the tax forms, which I thought was good. Information entered into any of the schedules is totalled up, calculations are performed, and data is transferred to the appropriate line of the 1040.

The only calculation that isn't done for you automatically is your standard deduction. You'll need to look it up in the booklet the IRS provides or peek at your 1040 form. This is pretty trivial, however, and it took me about 10 seconds to reference the 1040 to get that figure. If you itemize, then your totals are updated from the appropriate schedules, anyway.

This program also lets you perform "what if?" calculations easily with the update feature. At any time, you can press <U> and get a recalculation of your tax or refund, based on your most recent entries. This is great for figuring out what will happen if you make that last-minute donation to Boy's Town or your municipal bond fund.

Tax Survival Kit also prints directly to the IRS forms, or will print out a file copy with the line numbers, so you can fill out those precious forms by hand. There is an easy to use alignment routine for form printing, though you need to review your forms carefully afterward to fill in the garbage like presidential campaign fund contributions, preparer name, or daycare provider information.

This is a really nice program. It's simple, easy to use, well-documented, and has a spiffy opening screen. If I were president of a user group, I think I'd use this one to throw a tax party on April 15th. For $60.00 for the group license, you could load up the program on the club machine (C64 or C128), let the treasurer type in the information for each member while the rest of the sharks attack the buffet, print the forms, cut the checks or fill out the rapid refund applications, and van-pool down to the post office just before midnight.

Tax Accountant

Available from:Softdisk Publishing
LOADSTAR #129
P.O. Box 30008
Shreveport, LA
71130-0008
(800) 831-2694
Price: $9.95 plus $4.50 shipping
(includes entire LOADSTAR issue #129)
Upgrade: none.

Tax Accountant, written by Barbara Schulak, is a C64 tax preparation program that supports the 1040, 1040A, and 1040EZ forms and Schedules A, C, and SE. It supports the use of a single drive, two single drives, or a dual drive, and outputs to the screen or printer. Help screens are available for all the forms, or you can print out all of the documentation, which is much more extensive than last year's version.

Features

	Tax Survival Kit	Tax Master	Tax Account.	Tax Perfect
Price (w/o ship)	$30.00	$32.00	$9.95	$79.95*
C64 Version	X	X	X	X
C128 Version	X	X		X
Documentation	P/O	HC	P/O	HC
Online Help	X		X	X
Prints to IRS Form	X			X
Auto Calculation	X	X		
Calculator Feature		X	X	X
Supports Dual Drive		X		X
Supports Two Drives		X		X
Calculates Standard Ded.	X	X		X

P/O - Printout HC-Hard Copy Manual *C128 Version $89.95

From the main menu, **Tax Accountant** uses highlighter bars to select options and data entry lines. When you wish to enter data into the forms, you must first press enter to activate the line selected, then type in your data and press enter again. After entering all of your data, you can calculate your tax or refund by pressing F7 to bring up the options menu and selecting "Calculate Sheet."

If you are using form 1040, you can import data directly from the schedules by selecting the "Import" option from the options menu. If you are using 1040A or 1040EZ, the program will calculate your deductions and standard deduction after you enter your filing status on line #19.

In order to import data from the schedules, you must first save the information you've entered to diskettes, since upon exiing one of the modules, any unsaved information is lost. "What if?" calculations are simple to run, but since the program does not automatically recalculate results when new data is entered, you must be sure to "Calculate Sheet" before printing out your hardcopy.

Tax Accountant does not print directly to the tax forms, but does print a hardcopy with the line numbers, so you can transfer the figures easily. There's a pop-up calculator feature for adding up deductions within categories or W-2s.

Overall, **Tax Accountant** gives you the most bang for the buck. At only $14.45 (with shipping and handling) it is the least expensive of all the programs. It is very easy to use and I would consider it to be ideal for the person who is filing a 1040EZ or 1040A.

Tax Perfect

Available from:Creative Micro Designs
P.O. Box 646
E. Longmeadow, MA
01028
(800) 638-3263
Price:C64$79.95
C128$89.95
Upgrade:50% off 1995 version

Tax Perfect supports the 1040, Schedules A-E, F*, R*, SE, and EIC, 1040A, Schedules 1-3, EIC*, and forms 2106*, 2119*, 2210*, 2441, 3800*, 3903, 4136*, 4255*, 4562*, 4684*, 4952*, 6251, 8396*, 8615, and 8815

LOADSTAR ad
do NOT use this page!!!!

Basic BASIC

by R. Scot Cerrer

This month's column will almost wrap up the discussion of READ and DATA commands. One of my goals for 1995 is to keep this column useful to programming enthusiasts. You can assist me in this, if you like, by sending your wishes about this BASIC programming column to me in care of *dieHard.*

READing Numeric DATA

Until now, most of the programming examples have used an alphanumeric or string variable, such as READ V$. Numbers may also be used as numeric data to which calculations may be applied. Quite useful, too. The READ-DATA logic functions no differently. Just define the string variable as a numeric variable, such as READ N. The following example uses both kinds of variables.

```
10 DATA 10,20,30,40,50
20 FOR X=1 TO 5:READN:PRINTN;:NEXT:RESTORE
30 FOR X=1 TO 5:READN$:PRINTN$;:NEXT

RUN
 10 20 30 40 50
1020304050
```

"So big deal!" you say. There are no calculations being performed and both types of variables appear to work the same way . . . or do they? Visually, the results of this program suggest a difference. The numeric variables being displayed first have a leading blank, while the string variable data has no leading blanks.

By the way, the semicolons in Lines 20 & 30 cause the string and numeric values to PRINT on the same line. For kicks, remove the semicolons and rerun the program.

The RESTORE command is something new. In this case, it is used when you need to READ all the DATA elements more than once, from the first element. Using RESTORE resets the computer's pointers so it can execute the READ-DATA multiple times. This is especially useful when you have more than one READ-DATA routine in your program. If you do not use the RESTORE command under these circumstances, you will get the infamous OUT OF DATA? error message.

Getting down to business, let's apply a calculation to the numeric variables as they move through the FOR-NEXT loop logic.

```
10 PRINT CHR$(147)
20 FOR X=1 TO 5:READN:PRINTN
30 : PRINT"5 TIMES"N"="5*N
40 NEXT
50 DATA 5,10,15,20,25

RUN
5 TIMES 5 = 25
5 TIMES 10 = 50
5 TIMES 15 = 75
5 TIMES 20 = 100
5 TIMES 25 = 125
```

Fairly straightforward code. Line 10 clears the screen (I promise to cover CHR$ soon). Line 20 begins the FOR-NEXT loop to READ the DATA elements, 5 times since there is 5 elements. Line 30 is a command within the FOR-NEXT loop that displays a literal, with a calculation applied and displayed at the end of that literal. Lines 40 and 50 really need no explanation. Remember, the DATA statement can go anywhere in the program

Out Of Sequence DATA

What if you want to READ DATA out of sequence instead of the usual first element to the last element sequence?

```
10 DATA CLINTON, BUSH, REAGAN
20 FOR X=1 TO 1:READ V$:NEXT
30 PRINT V$

RUN
CLINTON
```

Changing the value after TO in Line 20 controls the last DATA element read. The 1 says read only one DATA element. Change the 1 to a 2 or 3 and the last element read will print on the screen. The PRINT statement is not in the FOR-NEXT loop so only one element will print.

Backward DATA

How about reading data backward? The next example is reading data forward as a reference point for us to begin.

```
10 DATA CLINTON,IS,PRESIDENT
20 FOR X=1 TO 3:READ V$:PRINT V$:NEXT
```

Now let's add some code to reverse this.

```
10 DATA CLINTON, IS, PRESIDENT
20 E=3
30 FOR X=1 TO 3
40 : FOR Z=1 TO E
50 :   READ V$
60 : NEXT
70 : PRINT V$
80 : RESTORE
90 : E=E-1
95 NEXT
```

Or in a more condensed fashion for typophobes:

```
10 DATA CLINTON,IS,PRESIDENT
20 E=3
30 FOR X=1 TO 3:FOR Z=1 TO E:READ V$:NEXT:PRINT
V$:RESTORE:E=E-1:NEXT

RUN
PRESIDENT
IS
CLINTON
```

There you go, backward DATA. It looks more complex than it actually is. The longer, structured version allows us to "see" the logic more clearly. Basically, we have 2 FOR-NEXT loops occurring. The first one in Line 30 is controlling an action set to occur 3 times. This action is: 1) a second FOR-NEXT loop in Line 40 that READS DATA using the numeric variable E initialized to 3 in Line 20, 2) PRINTing V$, 3) RESTOREing the pointers for subsequent READS, and 4) subtracting 1

GEOS Programming Secrets

by Nathan Fiedler

Have you ever wondered how those GEOS programmers write the software that they write? I have. Well, that was until I started writing my own software. I can honestly tell you that it is not a difficult thing to learn. It just takes a little patience and time. The longer the project, the more patience and time you need. This article is written for those readers interested in beginning their own adventure into the untamed world of programming. Let me now introduce you to the art of programming on the **commodore** GEOS system.

This article is broken up into four sections. The first is about Auto Execute programs, which run during the GEOS boot process. The second covers Desk Accessories, which run from within applications that support them. The third is all about VLIR applications. (If you don't know what VLIR means, you will soon find out.) The last part contains tips on successful programming. Some tips came from other programmers, who gave me their tips to be published here.

Auto Executes

These files are nothing more than small applications that load up during the boot process of GEOS. Whenever you load GEOS, the boot program loads in the kernal, then checks the disk for any files of the AUTO_EXEC type. If it finds any, it will load them and run them, just like any other application. These types of programs usually install themselves into the system, such as the **BlackOut** program, which wedges itself into GEOS memory and waits to blank the screen after a period of inactivity.

However, those kinds of wedges can be very tricky and difficult to debug (remove errors in the programming). Auto-execute programs are different from applications because they must not alter the area from $5000 to $6000. (The dollar sign ($) denotes the hexadecimal system. This is the base 16 numbering system, as opposed to decimal, which is base 10.) This is where the special boot code resides while your auto-execute runs.

Aside from that difference, there are another two things that an auto-execute programmer may notice. One is the firstBoot ($88C5) flag will equal zero while GEOS is booting. Once the **DeskTop** is loaded, this flag will change to $FF. This can be used by your program to determine whether it is running during boot-up, or if the user has launched the auto-execute from the **DeskTop**. This is why you never see the **Configure** screen while booting up, even though it is loaded and run. It knows it's running during boot-up and decides not to display itself. **Configure** only displays its screen when you launch it from the Desktop.

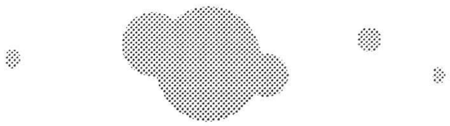
The other difference is that the input driver may not be loaded into memory. To fix this, use GetFile to load in the input device using the name at input Dev Name ($88CB). You would only have to load it in if your program was going to interact with the user by using the input device. You can still use the keyboard as a means of interfacing.

A note to those who own an earlier version of GEOS. The auto-execute files are not loaded on versions less than 1.3 of the GEOS kernal. So, if you check the version ($C00F) of GEOS that your program is running under, and it is less than $13, then you can assume your program was launched from the DeskTop, since a GEOS of an older version would not have loaded your program during boot-up.

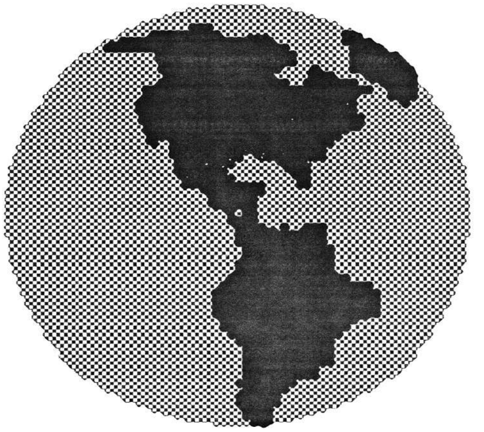
Remember, use file type AUTO_EXEC (14) in your programs header block, instead of APPLICATION (6), otherwise GEOS won't load it during bootup. To exit from the auto execute, just call EnterDeskTop. This will return control back to the boot-up code which will continue the boot process by loading the next auto execute program in the directory.

In the next column, I will talk about desk accessories.

```
READY.
■.
```



Creative Pixels
ad
remove this text



First Bytes

by

Bob Cameron

If you are wanting to learn, or if you have tried to learn, Machine Language Programming, then stay with me. This might sound familiar to some of you.

I started out to learn ML programming by reading the Programmer's Reference Guide for my C64. To be fair, they did say that parts of the book were not written for beginners. So it's my own fault that I didn't get anywhere. I looked at programs, read articles, and searched for books. No luck. Like a puzzle, I had the feeling that if I could just find that one "missing piece", somehow the rest would start to fall into place. If I were not such a die hard, I would have quit trying long ago.

My turning point came when I ran across a salesman in a computer bookstore who happened to know that all 8-bit computers used similar, if not identical, ML instructions, and he happened to have an old book on Apple Machine Language programming. Since that day, I have found abundant information, virtually under my nose. You see, I had to find out what I was looking for before I could begin to find it. That was my "missing piece." Hopefully, I can help you find your "missing piece".

I am programming on a C64. When I give a specific location, like 1024 for screen memory, you should check your manual for the correct address if you are using a different machine. Also, if you can, find a ML Monitor to use for programming. It is a program designed to make it easier to enter ML programs. Because we will use a combination of Basic and ML, you could POKE the program into memory by use of DATA statements; it is not absolutely necessary to have a ML Monitor, but it's easier and quicker.

Here's a simple program to print CLR and HI to the screen. It does the same as BASIC would do, but you want to learn ML programming, don't you?

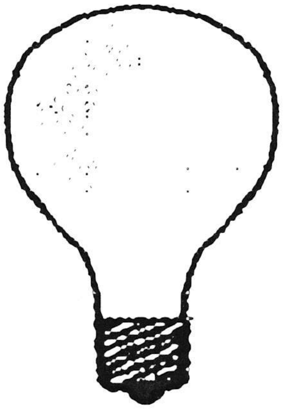
```
10 FORX=0TO15:READA
   :POKE49152+X, A:NEXT
20 SYS49152
30 DATA 169, 147, 32, 210, 255, 169,
72, 32, 210,  255, 169, 73, 32, 210,
255, 96
40 PRINT "<2 CRSR DOWN>
   <2 CRSR LEFT>"
```

This is BASIC and ML combined.

This is what you would enter on a ML Monitor: / This is what it would look like ASSEMBLED:

```
C000 LDA #$93          C000 A993
C002 JSR $FFD2         C002 20 D2 FF
C005 LDA #$48          C005 A9 48
C007 JSR $FFD2         C007 20 D2 FF
C00A LDA #$49          C00A A9 49
C00C JSR $FFD2         C00C 20 D2 FF
C00F RTS               C00F 60
```

The Breakdown:



169 ($A9) is one of 56 ML instructions that your computer recognizes. This one means Load 'A' with a number. The # sign means a number, not an address, and is usually put before a hexadecimal number. LDA is in the immediate mode when used this way. That means it uses the very next number as a value, and not an address. 147 ($93) means CLR/HOME.

32 ($20) means Jump to SubRoutine, like GOSUB. There are a number of useful routines available in memory that the machine uses, and that we can also use. They can't be erased by anything we do, including turning off the machine, because they are in Read Only Memory (ROM). That means we can get information from them, but we can't write anything to them, so we can't directly change them.

You'll notice that the numbers 255 ($FF) and 210 ($D2) are exchanged when we POKE them into memory. That's the way the machine wants them. 65490 ($FFD2) is the address of a routine which prints whatever is in 'A' to an output device, in this case the screen. The other two numbers, 72 ($48) and 73 ($49), are ASCII for 'H' and 'I'.

RTS means Return from Subroutine. From our BASIC program, SYS49152 calls our subroutine, and we should always return to whatever program calls a subroutine, whether BASIC or ML. The program then continues with the next instruction. Ours was print. JSR is in the absolute mode.

'A', as used here, and X and Y are called registers, and can hold one piece of information and use it. We can Load a register (LDA), (LDX), or (LDY) from memory, store the contents of a register (STA), (STX), or (STY) into memory, or compare the contents of a register (CPA), (CPX), or (CPY) with another register or with memory.

Now, it's your turn. Rewrite the ML part of the BASIC program above to print "HELLO, (your name)" instead of "HI". The ASCII codes for the comma and space are 44 ($2C) and 32 ($20). What? 32 is supposed to mean JSR? As an instruction, yes, but when 32 is used as the object of another instruction, it is just a value. Next time, I'll explain another way to store and load data.

You have learned how to LDA with a value, to JSR to subroutine 65490 ($FFD2) to print A to the screen, and to RTS from a SYStem call. Have fun with this, and be creative...$60.

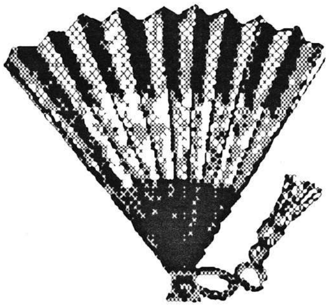
READY.

■

Archaic Computer

The Computer Store Of The Past

Introduced by Brian L Crosthwaite



I can recall sitting in the electronics lab at ISU. One of my instructors was jacked -- he was getting a Kaypro II computer. I remember his response when he inquired about what computer I had and I told him about my C64, "That's a good one."

I hope he still uses his Kaypro; I still use my C64. I never explored the CP/M option until after I used my C128 in CP/M mode. I aquired a used DATA80 CP/M/80 column adapter. I didn't do much with it, though. It took up a lot of room on my workbench and used up the cartridge port.

Most of my CP/M usage has been on my Epson Geneva. It has three ROM capsules that contain the software I use most: **Wordstar**, BASIC, and several utilities, including a term program. This makes things real easy for me since everything is built in. I do use some things on my C128. Most are Kaypro applications I've found at second-hand stores. Hardly the best usage of my C128.

This month, our reviewer extraordinaire -- Noel Plank -- takes us to that often unused place in the commodore , CP/M mode.

CP/M Kit for Commodore 128

An Introduction to CP/M

Fourth Edition --- 1988

INCA SOFTWARE SERVICES
9732 Paseo Montrill
San Diego CA 92129
(619) 484-2173

If you have been reading the regular column in *dieHard* about CP/M you can see there is another computer operating system inside your **commodore 128** just waiting to be addressed. CP/M stands for "Control Program for Microprocessors" and was developed in the late 1970s mainly to have a standard operating system between computers. This solved the problem of having to rewrite programs that were already written for different computers, because CP/M had become the most commonly used operating system for 8-bit computers in 1979. (If only Jack Tramiel, Commodore's CEO, had realized this fact instead of creating PET ASCII!)

LCII space

CP/M allows you to run lots more software, including **Word Star**, **dBASE II**, and **Perfect Writer**. The CP/M mode on the C128 also has several advantages when used in conjunction with a 1571 disk drive. The disk drive data is read at about twice the speed in CP/M mode as in the C128 mode. The computer's operating speed in CP/M mode is the same as in the 2Mhz C128 FAST mode.

Through the years, CP/M has evolved to Version 3.0, also known as CP/M Plus or CP/M+. However, there is another version of the commodore CP/M 3.0 PLUS system that comes packaged with the 1750 RAM extension module. This version supports the 17XX RAM Expansions.

But not all versions of CP/M 3.0 will operate these modules. The only way to determine if you have the most recent version supporting RAM devices is as follows:

A.Boot up the CP/M 3.0 Plus System diskette with a 17XX RAM connected to the C128.
B.Wait for the prompt A> to appear on the screen.
C.Enter "DIR M:".

This reads the expansion module's directory. The M refers to drive M (Memory drive) as a fast external drive that can store some of the more commonly used transient utilities in the RAM expansion for quick access.

You must have the CP/M operating

system disk installed in the disk drive to run CP/M. If you need assistance obtaining another copy, contact INCA CP/M Customer Service either by mail or by the telephone HELPline.

The CP/M KIT has been designed to introduce first-time users to the hundreds of free public domain programs available to the C128. It explains how to use some of the programs that came with the commodore 128 CP/M 3.0 PLUS System Disk. The CP/M KIT also demonstrates some of the main features of CP/M and shows how to address a modem to gather even more programs and information. Three sides of diskettes filled with useful CP/M public domain programs, complete with instructions, are also included.

Equipment required to run the CP/M Kit includes the following:

- Commodore C128 or 128D computer
- 1541 or 1571 disk drive
- TV or monitor
- *Introducing The Commodore 128 Personal Computer* (book packaged in the C128 carton)
- *The Commodore CP/M System Disk.* (book packaged in the C128 carton)
- Blank 5 1/4" diskette.
- Commodore compatible printer and/or interface optional.
- 1581 Disk Drive optional.
- Modem optional.
- 1750 Ram Expansion Unit optional.

The CP/M KIT comes with a 39-page manual. The manual doesn't promise to teach you everything about the CP/M operating system, but gets you started and keeps the first-time user in mind, introducing CP/M with step-by-step procedures.

The manual does not have an index (which might make Brian C. a little unhappy), but it does include an appendix full of brief descriptions on each of the programs included on the CP/M Kit Disks. These descriptions also include information on how to use and run each program on three sides of the enclosed diskettes.

The manual is divided into four chapters:

Chapter 1 -introduces you to CP/M by briefly explaining what it is and what you can expect from the CP/M kit.

Chapter 2 - teaches the basics of CP/M, such as loading, formatting, and copying CP/M files. Shows you how to display documents, using lots of simple examples.

Chapter 3 - takes you through several exercises demonstrating some of CP/M's features on the system disk that came with your C128 and shows how to use resident commands.

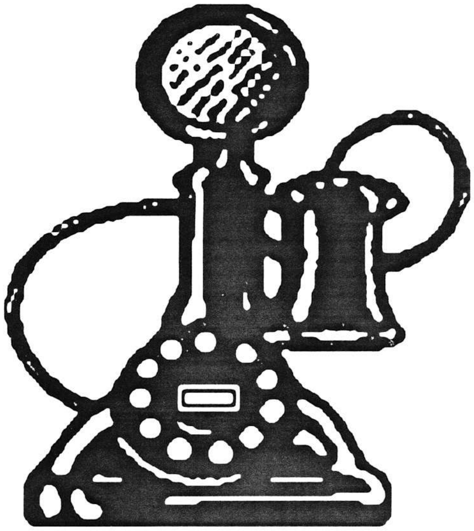
Chapter 4 - shows how to use a modem to exchange CP/M public domain software with different download and upload protocols.

The CP/M KIT also includes a catalog on one of the diskettes describing other CP/M programs available from INCA Software Services. They stock over twenty additional CP/M program disks, including the latest CP/M version of **Word Star 4.0**, and have a technical support line available to answer any questions you might have.

This is a real no-nonsense program which promises and delivers an introduction to CP/M and provides many other sources of information for the time when you have become familiar with the CP/M operating system.

This one gets a:

```
--------------------------
* * * * GREAT
--------------------------
READY.
■
```

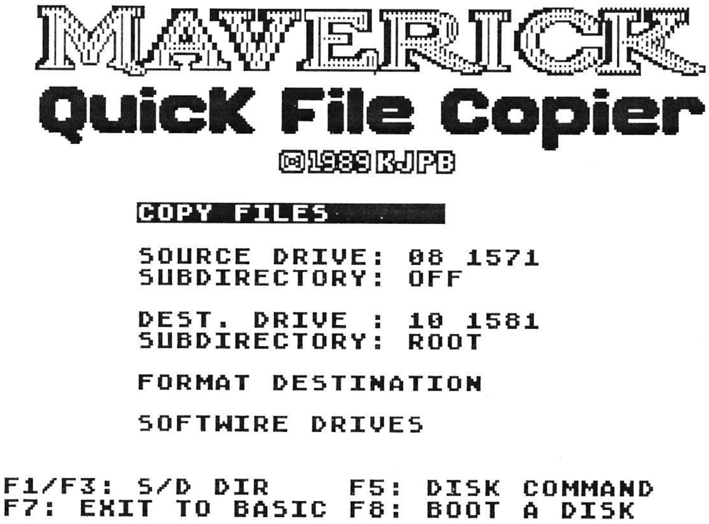


KF-PD ad
remove this
text

??Q??&!!A!!

Q: For about 10 years I've been a commodore user and fan. Word processing has been my greatest use and my **Bank Street Writer** program has, in its simplicity, been more than adequate for my up toward one million words. This implies that I have many 5 1/4 inch file disks and have thought to "expand" by compressing into 3 1/2 inch disks, using a 1581 disk drive.

I have the **Maverick** copy program, using the "Two Drive Quick File Copier" section in my 1571 disk drive, as #8, and the 1581 as #9. Programs copy and directories come onto the screen from <F1> on the #8, and from <F3> on the #9. But not one of the programs that I've copied will LOAD. Is there a way?



```
MAVERICK
Quick File Copier
©1989 KJPB

COPY FILES

SOURCE DRIVE: 08 1571
SUBDIRECTORY: OFF

DEST. DRIVE : 10 1581
SUBDIRECTORY: ROOT

FORMAT DESTINATION

SOFTWIRE DRIVES

F1/F3: S/D DIR     F5: DISK COMMAND
F7: EXIT TO BASIC F8: BOOT A DISK
```

I can copy word process files from #8 to #9, then change programs to Bank Street Writer, turn off #8, flip the dip switch on #9 to a #8, and these files will load into the computer and print out. No problem.

I read in the documentation for my **Maverick v5.0** program, "Many pieces of commercial software use direct disk access load blocks." Maybe I'll have to continue my programs on my 1571 and just have files on the 1581. Maybe there's not much point to the whole process. Can you help? -- Wayne Swenson of Kissimmee, Florida

A: There are several reasons why your software copies might not work when they are transferred from 1541 to 1581. In the early days of commercial software, programmers often copy protected programs by placing either logical or physical errors on specific sectors of the disk. The program would check (usually while doing something crucial) to see if the error was present. If it returned without finding it, it would assume you had a bootleg copy and crash the program.

Some programs use random files which are not listed in the directory. If they are not listed in the directory, the Quick File Copier in **Maverick** won't find them when it copies the programs. If these random files are missing at run time, the program will not work.

Programs that load completely into memory and don't access other files while they are loading can be saved in a slightly different format with cartridges like Super Snapshot, Final Cartridge, Super Explode, or Action Replay. We've had pretty good success using this technique to get programs to run on drive types other than those for which they were written.

Another way is to run 1541 programs from a mass storage 1581, in particular CMD's FD2000 and FD4000 drives. Programs can be copied to a partition that emulates a 1541. They will load and run just like they do in their native habitat.

Q: Do you have any information about the **C64S** mentioned in B-Bug and any other C64 simulator that runs on an IBM compatible or Macintosh? From time to time, I use a C64 to teach homebound children, and I want as much system redundancy as possible. David Ross of Honolulu, Hawaii

A: We found a copy of a review of **64S** that appeared in *Compute's Gazette* in May, 1994. To summarize, **C64S V1.0**:

- Requires at least a 386SX running at 20MHz, though a cached 386DX or 486 at 40MHz with VGA graphics and a sound card is recommended.
- Comes with a cable that connects your PC's parallel port to a 1541 drive or a datasette to transfer all your C64 files to the hard drive. C64S uses "tape images" and "disk images" on the hard drive to simulate datasette and disk access.
- Has the ability to "interrupt" the C64 emulation to use MS DOS file management and editing capabilities. It has a built-in 6502 assembler and debugger which, when combined with MS DOS' editing capabilities, makes assembly language programming a snap.
- Emulates all VIC chip graphics modes, including Sprites, Raster interrupts, and screen scrolling.
- Supports SID chip features, including three-channel sound, ADSR envelope control, pulse-width modulation, and newly-sampled original waveforms.

C64S is available from:

Seattle Lab
214 1st St.
Kirkland, WA 93033
(206) 828-9001 (Voice)
(206) 828-9011 (Fax)

I contacted Donald Meek at Seattle Lab, and

??Q??&!!A!!

he sent us a copy of the **C64S** press release. The text appears in our **NEWS** section.

Q: I have been trying to find a way to eliminate part of a program and not affect the rest. It gets kind of monotonous having to eliminate parts of a program one line at a time. Any help in this area will be appreciated. -- J.F. Withers of Vista, California.

A: The answer to this question lies in the dynamic keyboard loading technique which was discussed on page 5 of our April 1993 issue. Further information about dynamic keyboard loading can be found on pages 93-94 of the *Commodore 64 Programmer's Reference Guide*. We put together a spiffy program to do this on the C64, which will appear in full in our PRG section, and will be adapted for other machines on our *Spinner* disks.

A "quick & dirty" version of the program is listed below. If you want to use this while you are developing new programs, it can be loaded before you start writing your program. If you're using it to edit existing programs, you should load the program into memory, then type in this program to do your editing. Or better yet, us MERGE found on the ??? 9? *Spinner*. We suggest that you stay with the technique of numbering the lines of this program from 60000 on, and be careful not to renumber it with automatic renumbering utilities. You can also type in a line such as:

```
1 REM RUN 60000
```

at the beginning of your program, and use it to run the line deletion segment by LISTing 1, then spacing over the 1 REM, then pressing <Return>.

```
60000 REM LINE DELETION PROGRAM
60010 I=0:INPUT"BEGINNING LINE
    NUMBER";A:GOSUB 60060
60020 I=2:INPUT"ENDING LINE
    NUMBER";A:GOSUB 60060
60030 INPUT"INCREMENT";A
60040 POKE 787,A
60050 GOTO 60090
60060 HI=INT(A/256)
    :LO=A-(HI*256)
60070 POKE1020+I,HI
    :POKE 1021+I,LO
60080 RETURN
60090 PRINT"<CLR>"+STR$((
    PEEK(1020)*256)+PEEK(1021)):
    PRINT"RUN60110<HOME>"
60100 POKE 198,3:POKE631,19
    :POKE 632,13:POKE 633,13:END
60110 IF((PEEK(1020)*256)
    +PEEK(1021))>=((PEEK(1022)
    *256)+PEEK(1023)) THEN END
60120 A=(PEEK(1020)*256)
    +PEEK(1021)
    +PEEK(787)
60130 I=0
    :GOSUB 60060
60140 GOTO 60090
```

Unfortunately, when you get done using this routine, you still have the problem of getting rid of the line numbers you used to get rid of the line numbers. It's a little bit like importing a crocodile to take care of those pesky stray cats. But what's a mere 14 line numbers between friends, eh?

Q: Saw your advertisement on the back of the September issue of *dieHard* magazine and I have a few questions.

Does the BBGRam have a socket so that my snapshot cartridge can be plugged in?

Will I be able to store programs in it for fast loading as well as data?

Is there a list available of the programs with which this RAM unit is known to be incompatible?

What cartridges is it incompatible with?

Is this Ram for use with GEOS only?

I am using a C128 with two 1571 drives and a CMD FD-4000 drive. -- Kenneth Jewell of Mt. Vernon, Ohio.

A: The BBGRam doesn't have a socket; it can be plugged directly into the cartridge port, or used with a cartridge port expander with a snapshot or other cartridge.

The BBGRam is intended for use with GEOS, not as a fast loader for other software. The only software that we've had it reported to be incompatible with is **Sylvia Porter's Finance**. The only cartridge incompatabilies that we've found is with the Final Cartridge III (it hates REUs).

Q: The program **DH Checksum** and **Tiperight 2.0** has three lines that do not check-- 380, 390, and 400. The program **SPACEPORT(64)** has a lot of lines that do not check: 160, 200, 310, 380, 400, 480, 500, 510, 520, 550, and 600. I would like to know how you type in [C=7]. Some of the lines have that in them, and I have no idea how to type it in and it is driving me up a tree. -- Allen F. Alleman of Mount Joy, Pennsylvania.

A: We ran **DH Checksum** on the programs that you mentioned, and they both produced the proper checksum numbers. After some experimentation, we came up with the following possible problem areas. If you type the program in with different line numbers, the checksum changes. Extra spaces, however, will not affect the checksum. If you leave in the REM statements that are used to give you the proper checksums, you will get incorrect checksums. Leaving in the colons separating the program lines from the REMs will also produce incorrect checksums. When we print [C=7], it means to press the Commodore key, located at the lower left of the keyboard, and the <7> key simultaneously. Hope this helps you with these problems.

READY.
■

DOS & Don'ts

DOS & Don'ts is reprinted with permission from LOADSTAR. The Compete DOS and Don'ts is available for C64/C128 from Softdisk, P.O.Box 30008, Shreveport, LA, 71130 for 2nd day delivery.

Directory Links

by James Gregory Weiler

Part D: The Directory

The directory contains the name and address of every file on each disk. The first two bytes of the BAM block point to the directory. The directory normally resides at track 18 blocks 1 through 18. However, after that, the blocks are not laid out on the disk in order. Each is offset from the previous block by at least three intervening blocks. **commodores** do that to speed up directory I/O.

If your 1541 had to access block 1, block 2, block 3, etc, in order, it would take more than twice as long as it does to read a directory. Changing the order of sectors in order to speed up reading is known as interleaving or skewing. The 1541 skews disk files the same way it skews the directory.

Because everything except the BAM can be stored on the disk higgledy-piggledy, 1541 DOS needs some way to find its way around. DOS uses LINKS to navigate.

The first two bytes of each directory block link it to the next directory block. Block 1 is linked to block 4, block 4 to block 7, etc. Look at Map 3 to see the order in which the blocks are linked. The last directory block with file names in it links nowhere (track 0, block 255).

```
=====================================
Map 3:  Typical directory track.
description          address/linked to
-------------------------------------
BAM:                 18,00 / 18,01
directory block  1   18,01 / 18,04
directory block  2   18,04 / 18,07
directory block  3   18,07 / 18,10
directory block  4   18,10 / 18,13
directory block  5   18,13 / 18,16
directory block  6   18,16 / 18,02
directory block  7   18,02 / 18,05
directory block  8   18,05 / 18,08
directory block  9   18,08 / 18,11
directory block 10   18,11 / 18,14
directory block 11   18,14 / 18,17
directory block 12   18,17 / 18,03
directory block 13   18,03 / 18,06
directory block 14   18,06 / 18,09
directory block 15   18,09 / 18,12
directory block 16   18,12 / 18,15
directory block 17   18,15 / 18,18
directory block 18   18,18 / 0,255
-------------------------------------

READY.
■
```

Tech Star ad
remove this text

Gil Parrish's

Collectors' Corner

Almost any attention paid to garage sales and similar locales (even attics!) will eventually turn up a commodore VIC20 computer. It was Commodore's first color computer, and was named after the fancy 6560 Video Interface Chip that made the picture possible. (The story is that Commodore intended to call it the VIC22 since the video was 22 columns, but the marketing folks thought VIC20 sounded snappier.) It was also Commodore's first shot at the mass consumer market, though Commodore had made other computer models aimed at more upscale hobbyist and professional markets. From the VIC's introduction around May of 1981 to its discontinuance around July of 1984, about two million units were made of this *Wonder Computer of the '80s* (as Commodore tagged them in early ads featuring William Shatner), so they are certainly not a rarity even today.

If, as a commodore enthusiast, you run into one, should you pick it up? Assuming the price is right (perhaps no more than $10 to $15 for the computer, power supply and RF modulator), the VIC is a safe and fun addition to a commodore hardware hoard, even though the device has definite limits.

Physically, the VIC looks almost identical to the early 64, except with a cream-colored case and some differences in the ports. In many ways, it was a come-down from Commodore's PET/CBM models: it had a memory of only 5K RAM rather than the typical PET/CBM 8K to 32K with about 3.5K of that 5K free, a serial connector for disk drives and printers rather than the faster parallel IEEE-488 connector, and that 22 column video display instead of 40 or 80 columns.

But it still packed quite a punch for its day. For starters, it had built-in BASIC. On the much more expensive Atari 800, BASIC had to be purchased in a separate cartridge for an extra $50. The VIC had a real keyboard; many home computers came with something less, such as the chiclet keys on IBM's later PCjr, or the flat touchpad keyboard on the Atari 400. That serial connector, if not particularly fast, nevertheless allowed easy expansion just by plugging in peripherals. The Texas Instruments TI-99/4a required an expensive peripheral expansion box before much of anything could be added. The VIC displayed text in both upper and lower case -- the original Apple II had uppercase only. The VIC had a decent chip to handle music and sound effects, which gave it far more capability than the little beeper that expensive CP/M business computers of the time featured (and the same goes for many out-of-the-box PCs today!). Obviously, the VIC displayed color and graphics; Commodore's own PET/CBM models could not do that.

Perhaps most miraculous of all was its cost: about $299 street price, while just prior to its introduction the street price of a 16K Apple II was around $999, Commodore's 8K PET (w/monitor) was $795, a 16K Atari 800 was around $759, and even the stripped-down 8K Atari 400 was around $409.

When I say a VIC is a safe purchase, I mean that it is very compatible with 64/128 hardware. Not only is the VIC serial port the same as on a 64/128 (meaning the same disk drives and printers work with it), but also the user port, joystick port, and Datassette port are the same.

But, of course, life is not all roses. The expansion port is totally different, so RAM expanders or cartridge games are not interchangeable. Also, connecting the VIC's video is different. To be used with a TV the VIC needs an external RF modulator which fits between the VIC's 5-pin video connector and your TV (make sure it comes with your VIC). To be used with a monitor, the VIC may or may not be able to utilize a standard 5-pin cable designed to interface with a C64, depending on whether the cable makes any connection to Pin 1 (which is luminance on a C64 but +5 volts on a VIC). Finally, the power supply your VIC requires may or may not be the same as on a C64. Earlier VICs had a 2-prong connector running 10 to 11.5 volts AC.

For its operating system, the VIC has exactly the same BASIC 2.0 that Commodore included later on the C64. So, disk or tape operations are handled the same way, and BASIC programs are pretty similar. But memory locations are distinct, and some tasks such as video are handled in a different manner, so software is not interchangeable (except perhaps for the simplest BASIC programs with no peeks or pokes). Still, many commodore 64/128 user groups have some VIC-20 software available too, so you'll probably have no significant difficulty finding some programs.

However, be advised that the quality of programs you find is another issue. The root problem is that 5K of memory, which is not much even compared to the C64 (which is in turn considered a very small memory computer today). True, a VIC's RAM is expandable: a VIC can accept a RAM expander cartridge of up to 35K without memory overlap, of which 24K can be used for BASIC programs. This would yield a maximum 27.5K free area for BASIC, which is about 70% of the 39K of BASIC area that a C64 has free. But given the high cost of memory in the early days, programmers could not count on large numbers of 16K to 35K expanders; hence, they tended to write for the least common denominator, being no more than 8K expansion.

Another factor which probably hurt long term software support of the VIC was the very same ease with which either a VIC or a 64/128 could run the same peripherals. When all VIC owners had to do was slip a C64 into their system to upgrade memory, improve both text and graphic screen displays, and vastly increase access to larger and more sophisticated programs, it was all too easy to leave the VIC behind -- and that's what many users did. Programmers quit writing for it, and hence the VIC's software base remains largely what was created in the early '80s, mostly crude shoot-em-up games.

Still, not all VIC programs are games, and some surprisingly sophisticated results can be obtained, especially with a RAM expander (obviously, the larger the better) since many VIC programs which store user data automatically check the computer for the amount of free memory and adjust their capacity accordingly. For example, the VIC version of the **Speedscript 3.2** word processor, which requires at least 8K expansion, is the functional equivalent of **Speedscript** running on a C64, complete with extensive text handling and printer formatting capabilities, even if viewing text on a 22 column by 23 line screen display is less than efficient. With the minimum expansion, text capacity is just 5K; but, that can balloon to 21K with a 24K expander.

As another example, the commercial program **PractiCalc** requires 16K expansion to run at all, but brings to the VIC a 600-cell spreadsheet capable of 22 mathematical operations, alphabetization, and production of bar graphs based on numerical results. The 600 cell capacity is raised to 2000 cells if 24K expansion is in place.

Bottom-line? The best reason for getting a VIC now is that it's a cheap hoot to play with ... er, I mean, an inexpensive platform on which to conduct serious computing experiments (phew!). If you're used to the 40-column text on a 64 or particularly the 80 columns on a 128 or other computer, seeing that giant VIC lettering 22 columns across gives you a real feel for how far computers have come. If you have a Datassette, hook it in, too! The Datassette is a good pairing with a VIC, given the small size of VIC programs which makes load/save times shorter than on a 64/128. An extra bonus of VIC ownership is that you do not need to baby this device as you might feel compelled to do with rarer or more costly items of your commodore hoard. If a VIC ever gets damaged, there's plenty more where that one came from! (I don't recomend bangin' it up purpose. One million may be a lot, but it is a finite quantaty -- E.I.C.) So snatch up that VIC, hook it into your system, kick back, and enjoy primitive computing at its colorful, carefree best.

READY.
■

Back Issues!!!

#1* May '92 _Hardcore_ **$3.50**

This is _dieHard_'s premier issue printed out of Brian L Crosthwaite's basement on an MPS 1270 inkjet printer! Highlights: SAVE@ bug, Lots of Pokes and Peeks, Program, and the editorial concept behind _dieHard_.

#2* Jun '92 _Writers, Programmers, Countrymen_ **$3.50**

Highlights: word processing tips, GEOS tips, review of **Visible Solar System**, Programs, and **Pokes and Peeks**.

#3* Jul/Aug '92 _Oops!_ **$4.50**

Highlights: review of The Final Cartridge III, review of **Turtle Graphics II**, **Puter Mirth**, **PAPSAW**, and Programs.

#4* Oct '92 _Pumpkin_ **$3.50**

Highlights: review of **_LOADSTAR_**, **PAPSAW**, review of **Pole Position**, **Q&A**s, and Programs.

#5* Nov/Dec '92 _geoIssue_ **$3.50**

Highlights: **Commodore Trivia**, **geoTips**, **geoTutorials**, review of **GateWay**, review of **DESKTOP 1.5**, **Q&A**, and the DOS wedge.

#6* Jan '93 _History in 3001_ **$2.95**

Highlights: datassette backup, Programs, User Groups, **PAPSAW**, review of Hearsay 1000, **Q&A**, and **Commodore Trivia**.

#7* Feb '93 _Computer Cipher_ **$2.95**

Highlights: **geoTips**, review of **The Duel: Test Drive II**, review of **Super Expander 64**, **Q&A**, Programs, and **PAPSAW**.

#8* Mar '93 _Script_ **$2.95**

Highlights: review of IconTroller, **geoTips**, **PAPSAW**, review of **Top 20 Solid Gold**, **Q&A**, and Programs.

#9* Apr '93 _The Last Flyer_ **$2.95**

Highlights: review of **_Mojo Mag_**, **geoTips**, **PAPSAW**, review of **Kickman**, **Q&A**, and Programs.

#10 May '93 _The Adventures of Laser Mag_ **$2.95**

This is the first laser printed issue printed on magazine paper. Highlights: **geoTips**, review of _Commodore FORMAT_, **Basic BASIC**, **PAPSAW**, review of the Commodore 1581 disk drive, **Q&A**.

#11Jun/Jul '93 _The Connection!_ **$2.95**

Highlights: review of **The Simpsons Arcade Game**, **geoTips**, **Basic BASIC**, **PAPSAW**, review of **Clowns**, and **Q&A**.

#12 Aug '93 _Special PD Issue_ **$2.95**

Highlights: **Tips**, review of **Gary Label Maker V4**, review of **Shoot 'Em Up Construction Kit**, **Q&A**, and Programs.

#13 Sep '93 _Plug In!_ **$2.95**

Highlights: Qlink news, **Basic BASIC**, hooking up modems, review of **JiffyDOS**, **geoTips**, **Cyberspace Cowboy**, review of **Partner 64**, **Q&A**, and Programs.

#14** Oct '93 _The Horror Issue_ **$2.95**

Highlights: **MIDI**, review of **KeyDOS**, review of **Wings of Circe**, **Basic BASIC**, **Cyberspace Cowboy**, review of **Partner 128**, **Q&A**, and Programs.

#15 Nov '93 _Gobble, Gobble!_ **$2.95**

Highlights: **CAD for the C64**, **Basic BASIC**, **MIDI**, **Cyberspace Cowboy**, and news.

#16 Dec '93 _Merry Christmas!!_ **$2.95**

Highlights: **A Computerist's Christmas**, **REVIEW!**, A Christmas Card in **PRG**, **Telecommunications -- Your Commodore And You, of pink novels, software turntables and forgotten logitheques.**

#17 Jan/Feb '94 _Killer GEOS Issue!_ **$3.95**

Highlights: **INPUT;READER$**, **Rarities**, **geoTips**, **GEOS Meets Laser**, **Putting the Impossible on Paper**, **Trader's Corner**, **Archaic Computer**.

#18 Mar '94 _Control Program for Microprocessors!_ **$3.95**

Highlights: **INPUT;READER$**, **Rarities**, **CP/M**, **Cyberspace Cowboy**, **Ms. Knombers**, **Trader's Corner**, **Archaic Computer**, **PRG**.

#19 Apr '94 _Special Amigaless Issue!!!_ **$3.95**

Highlights: **Have You Seen LOADSTAR Lately?!?**, **Rarities**, **Basic BASIC**, **Cyberspace Cowboy**, **Q&A**, **Trader's Corner**, **Archaic Computer**, **PRG**.

#20 Jun '94 _Hey! This Is Our Two Year Anniversary Issue!!!!_ **$3.95**

Highlights: **INPUT;READER$**, **Rarities**, _LOADSTAR_ Turns Ten!, **Cyberspace Cowboy**, Jack Blewitt sets Ms. Knombers back on track!, **Trader's Corner**, **Archaic Computer**.

#21 Jul/Aug '94 _Rarities, Rarities, Rarities, and more Rarities!!!_ **$3.95**

Highlights: **C128 CP/M**, **8-Bit 4-Pass Color Tutorial**, **8-Bit The Low Cost Computing Alternative**, **PRG**.

#22 Sept '94 _Archaic Computer Comes Of Age._ **$3.95**

Highlights: **Grappling The Great Gooey**, **Rarities**, **Cast in a Veil of Fog**, **DOS Bugs and Quirks**, **Collector's Corner**.

#23 Oct '94 _Digital Nightmare!!!_ **$3.95**

Highlights: **Case in Point**, **Grappling The Great Gooey II**, **Archaic Computer**, **PRG**.

#24 Holiday/Winter 94/95 _????????!!_ **$3.95**

Highlights: ????, ????, ????, ????

Prepayment must accompany all back issue orders. Idaho residents please add 5% sales tax.

*These issues were printed with a **commodore** MPS 1270 inkjet and printed by photocopy machines, the original Flyer.

**This issue is awaiting press time to reprint. Thank you for your patience.

PAPSAW

by Jon Helm

You can turn the 128's numeric keypad into a great data entry device. This will define F1 to print DATA and the decimal point as a comma. Type:

```
KEY1,"DATA":FORT=0TO88:
POKE7079+T,PEEK(64128+T):NEXT:
POKE7161,44:POKE830,167:
POKE831,27
```

Pokes for the C64:

POKE 53265,11	screen off
POKE 53265,27	screen on
PEEK (162)	yield a random value from 0 to 255
POKE 19,65	Input without "?"
POKE 19,0	Input with "?"
POKE 22,35	List program without line numbers (can cause strange results)
POKE 22,25	Restore line numbers in LIST
POKE 186,#	Change device number to #
POKE 198,0	Clear keyboard buffer
POKE 211,x	Move cursor to row x
POKE 212,y	Move cursor to column y
POKE 214,0	Disable quote mode
POKE 214,8	Restore quote mode
POKE 646,x	Change character to x (0-15)
POKE 649,0	Disable keyboard (except for <RUNSTOP><RESTORE>)
POKE 649,10	Enable keyboard
POKE 649,x	Change keyboard buffer to x (causes strange results)
POKE 650,255	Make all keys repeat
POKE 650,40	Restore normal key repeat
POKE 650,0	No keys repeat
POKE 657,1	Disable <SHIFT><C=>
POKE 657,0	Enable <SHIFT><C=>
POKE 774,0	LIST only line numbers
POKE 774,26	Reset line numbers
POKE 775,168	Disable LIST function
POKE 774,226:POKE 775,252	Reset the computer if you type LIST
POKE 775.167	Enable LIST function

```
READY.
■
```

Rarity

Many of the graphics in this issue are from *RUN*'s *GEOS Companion* and *GEOS Power Pack I & II* disks. These disks, full of GEOS applications, accesories, graphics and fonts, are availible from Creative Micro Designs. See page 3 for their ad.

Discription:	Pages:	RUN disk:
Baby Buggy	4	Power Pack I
Sunburst	6	Power Pack I
Globe	6, 8, 9, 18	Power Pack I
Mother's Day	7	Companion
Navaho Cross	10	Power Pack II
Diamond	12-15	Power Pack II
Uncle Sam	15	Power Pack II
Four-Way Arrows	17	Power Pack II

Discription:	Pages:	*RUN*disk:
Circled Square	19	Power Pack II
Light Bulb	19	Power Pack II
Antique Fan	20	Companion
Telephone	21	Power Pack I
Wheel Cross	27	Power Pack II
Infinite Squares	28	Power Pack II
Spirit Eyes	33	Power Pack II
Moonburst	34	Power Pack I
Butterfly	34	Power Pack II

```
READY.
■
```

Welcome to PRG! Here are some things to remember when entering programs from the pages of *dieHard* into your commodore:

- *dieHard* supports all commodore 8-bit computers, so be sure you type in the code that is for *your* computer. The type(s) of computer(s) a given PRG are found after the PRG name and precede each individual listing if there is more than one version.
- When you come across anything inside square brackets [] this means to type a key sequence. For instance, you may see: [C= P] this means to hold the commodore key down and type 'P'. In this case you will get a graphics character. If there is a number at the start of the key sequence that simply means to type the sequence in that number of times. So [2 C= P] means type two of the characters rather than just one. This is done to save space and to clarify proper spacing in the magazine listing.
- [SPACE] is the space bar, [CTRL] is the control key, [ARROW BACK] is the arrow back key found on the far left of the C64, C128, VIC20 and PET/CBM. It is [SHIFT =] or shift equals on the plus/4 and C16. [BRITISH POUND] is the British Pound symbol. Word decriptions are used to replace symbols that either don't look like thier commodore counterparts or just don't exist in the Adobe-PostScript-Courier font used to print these listings. If at first you don't find a key sequence on your computer, be patient and look over your keyboard carefully. All sequences are based on the C64 and C128 keybaords. A good familiarity with the keyboard will help in entering these programs correctlly.
- These programs are converted from BASIC 7.0 to ASCII via computer. No program is keyed directly into GEOS, so we know they do run as listed.

Metric Converter (All)

By

This program does conversions from English to metric units of measurement.

```
10 REM COPYRIGHT 1994 LYNNCARTHY
   INDUSTRIES, INC.  ALL RIGHTS
   RESERVED.
20 PRINT CHR$(147)SPC(9)"*** UNIT
   CONVERTER ***":REM 250
30 PRINT:PRINT"WOULD YOU LIKE TO
   CONVERT:":REM 161
40 PRINT:PRINT"(C)USTOMARY TO
   METRIC":REM 215
50 PRINT"(M)ETRIC TO
   CUSTOMARY":REM 221
60 PRINT"(Q)UIT":REM 37
70 GET A$:IF A$=""THEN 70:REM 112
80 ON-(A$="C")-2*(A$="M")
   GOTO 110,350:REM 81
90 IF A$="Q"THEN PRINT
   CHR$(147):END:REM 108
100 GOTO 70:REM 217
110 PRINT CHR$(147):PRINT SPC(6)"***
   CUSTOMARY TO METRIC ***":REM 42
120 PRINT:PRINT"SELECT UNIT TO
   CONVERT:":REM 104
130 PRINT:PRINT"1. INCHES TO
   CENTIMETERS":REM 52
140 PRINT"2. SQUARE INCHES TO SQUARE
   CENTIMETERS":REM 73
150 PRINT"3. MILES TO
   KILOMETERS":REM 4
160 PRINT"4. SQUARE MILES TO SQUARE
   KILOMETERS":REM 202
170 PRINT"5. FLUID OUNCES TO
   LITERS":REM 32
180 PRINT"6. OUNCES TO GRAMS":REM 203
190 PRINT"7. POUNDS TO
   KILOGRAMS":REM 73
200 GET A$:IF A$=""THEN 200:REM 38
210 A=VAL(A$):PRINT:PRINT"ENTER
   CUSTOMARY VALUE TO BE
   CONVERTED.":INPUT A$:REM 154
220 ON A GOTO 240,250,260,270,280
   ,290,300:REM 92
230 IF A=0 OR A>7 THEN
   GOSUB 200:REM 125
240 C=2.54:B$="CENTIMETERS"
   :GOTO 310:REM 49
250 C=6.4516:B$="SQUARE
   CENTIMETERS":GOTO 310:REM 196
260 C=1.609:B$="KILOMETERS"
   :GOTO 310:REM 86
270 C=2.59:B$="SQUARE KILOMETERS"
   :GOTO 310:REM 191
280 C=.029574:B$="LITERS"
   :GOTO 310:REM 159
290 C=28.3493:B$="GRAMS"
   :GOTO 310:REM 244
300 C=.45359:B$="KILOGRAMS":REM 185
310 A=VAL(A$):RSLT=A*C:REM 49
320 PRINT"RESULT IS"RSLT;B$:REM 207
330 GET A$:IF A$=""THEN 330:REM 247
340 CLR:GOTO 20:REM 250
350 PRINT CHR$(147):PRINT SPC(6)"***
   [SPACE]METRIC TO CUSTOMARY
   [SPACE]***":REM 238
360 PRINT:PRINT"SELECT UNIT TO
   CONVERT:":REM 27
370 PRINT"1. CENTIMETERS TO
INCHES":REM 223
380 PRINT"2. SQUARE CENTIMETERS TO
   SQUARE INCHES":REM 10
390 PRINT"3. KILOMETERS TO
   MILES":REM 69
400 PRINT"4. SQUARE KILOMETERS TO
   SQUARE MILES":REM 140
410 PRINT"5. LITERS TO FLUID
   OUNCES":REM 159
420 PRINT"6. GRAMS TO OUNCES":REM 49
430 PRINT"7. KILOGRAMS TO
   POUNDS":REM 108
440 GET A$:IF A$=""THEN 440:REM 93
450 A=VAL(A$):PRINT:PRINT"ENTER METRIC
   VALUE TO BE CONVERTED."
   :INPUT A$:REM 41
460 ON A GOTO 480,490,500,510,520
   ,530,540:REM 119
470 IF A=0 OR A>7 THEN
   GOSUB 440:REM 203
480 C=.3937:B$="INCHES"
   :GOTO 550:REM 131
490 C=.155:B$="SQUARE INCHES"
   :GOTO 550:REM 249
500 C=.621:B$="MILES":GOTO 550:REM 31
510 C=.386:B$="SQUARE MILES"
   :GOTO 550:REM 122
520 C=33.814:B$="FLUID OUNCES"
   :GOTO 550:REM 152
530 C=.03527:B$="OUNCES"
   :GOTO 550:REM 187
540 C=2.205:B$="POUNDS":REM 62
550 A=VAL(A$):RSLT=A*C:REM 14
560 PRINT"RESULT IS"RSLT;B$:REM 188
570 GET A$:IF A$=""THEN 330:REM 224
580 CLR:GOTO 20:REM 237
```

.....end of line.

Oil to Add (All)

This program is handy for determining the proper amount of oil to add to gasoline for use in any type of 2-cycle engine.

```
10 REM COPYRIGHT 1994 LYNNCARTHY
   INDUSTRIES, INC.  ALL RIGHTS
   RESERVED.
20 PRINT"[CLR]":REM 240
30 PRINT"[3 SPACE]THIS PROGRAM WRITTEN
   BY CHUCK SMITH":REM 28
40 PRINT:PRINT:PRINT:REM 99
50 PRINT:PRINT:PRINT:REM 125
60 OPEN4,4:REM 230
70 PRINT"THIS PROGRAM FIGURES THE
   OUNCES OF OIL ":REM 1
80 PRINT"TO ADD TO GASOLINE FOR ANY
   GIVEN RATIO":REM 158
90 PRINT:REM 193
100 INPUT"ENTER THE RATIO DESIRED
   [2 SPACE]50[CRSR LEFT][CRSR LEFT]
   [CRSR LEFT][CRSR LEFT]";R:REM 34
110 INPUT"ENTER THE GALLONS OF
   GASOLINE";G:REM 21
120 PRINT:PRINT:REM 163
130 PRINT"THE OUNCES OF OIL NEEDED
   FOR"G"GALLONS OF GASOLINE
   IS";:REM 165
140 A=G*128/R   :PRINTA:Z=A/32
   :PRINT "OR"Z" QUARTS OF OIL"
   :PRINT:PRINT:REM 31
150 INPUT"DO YOU WANT A PRINT OUT
   [CTRL 9]Y[CTRL 0][SPACE]OR[SPACE]
   [CTRL 9]N[CTRL 0]";P$:IF"Y"=P$
   THEN170:REM 218
160 END:REM 33
170 PRINT#4,"THE OUNCES OF OIL
```

```
140 A=G*128/R   :PRINTA:Z=A/32
   :PRINT "OR"Z" QUARTS OF OIL"
   :PRINT:PRINT:REM 31
150 INPUT"DO YOU WANT A PRINT OUT
   [CTRL 9]Y[CTRL 0][SPACE]OR[SPACE]
   [CTRL 9]N[CTRL 0]";P$:IF"Y"=P$
   THEN170:REM 218
160 END:REM 33
170 PRINT#4,"THE OUNCES OF OIL
   FOR"G"GALLONS OF GAS IS "A
   " OR"Z"QUARTS":REM 206
180 PRINT#4:CLOSE4,4:END:REM 161
```

.....end of line.

Terminator (C64)

By Jon R. Steel

This is the program that we referred to in our Q&A section. It makes use of the dynamic keyboard loading technique and some sneaky memory locations that don't get erased when a program ends. Just load up the program from which you need to delete some lines, then type in the Terminator, and RUN 60000. You could use a cartridge to APPEND the terminator to your program, but if you have a cartridge with an APPEND function, it's probably got a function that deletes lines as well, so you wouldn't need this program in the first place. I'm also working on a spiffy-keen Append program right now that we'll include sometime soon.

```
60000 PRINT"[CLR][2CRSR DOWN]
   [11SPACES]WELCOME TO
   TERMINATOR":REM 122
60010 PRINT"[CRSR DOWN]  COPYRIGHT
   LYNNCARTHY INDUSTRIES
   1995":REM 111
60020 PRINT"[9SPACES] WRITTEN BY JON
   R. STEEL":REM 129
60030 I=0:B=256:REM 254
60040 PRINT"[2CRSR DOWN]THIS PROGRAM
   IS DESIGNED TO ELIMINATE":REM 171
60050 PRINT"USELESS LINE NUMBERS FROM
   WASTEFUL,":REM 52
60060 PRINT"BUREAUCRATIC
   PROGRAMS.":REM 102
60070 PRINT"[3CRSR DOWN]
   [12SPACES]WARNING!!!":REM 23
60080 PRINT"TERMINATOR WILL DELETE
   THE LINE NUMBERS":REM 127
60090 PRINT"PERMANENTLY FROM
   MEMORY. IF THIS IS":   REM 71
60100 PRINT"NOT WHAT YOU WANT TO DO,
   THEN PRESS":REM 181
60110 PRINT"THE"+CHR$(34)+
   "X"+CHR$(34)+" KEY NOW.":REM 76
60120 PRINT"[2 CRSR DOWN] OTHERWISE,
   PRESS ANY KEY TO INITIATE...
   [14SPACES]TERMINATOR":REM 20
60130 GET A$:IF A$="" THEN 60130:REM 2
60140 IF A$="X" THEN PRINT"[CLR]"
   :END:REM 21
60150 PRINT"[CLR]":REM 41
```

```
60160 INPUT"BEGINNING LINE
   NUMBER";A:GOSUB 60220:REM 88
60170 I=2:REM 41
60180 INPUT"ENDING LINE
   NUMBER";A:GOSUB 60220:REM 26
60190 INPUT"INCREMENT
   ";A:REM 186
60200 POKE 787,A:REM 198
60210 GOTO 60250:REM 71
60220 HI=INT(A/256)
   : LO=A-(HI*256):REM 133
60230 POKE1020+I,HI
   :POKE1021+I,LO:REM 13
60240 RETURN:REM 41
60250 POKE646,PEEK(53281):REM 2
60260 PRINT"[CLR]"+STR$((PEEK(1020)
   *256)+PEEK(1021)):PRINT
   "RUN60280 [HOME]":REM 174
60270 POKE198,3: POKE631,19
   :POKE632,13:POKE633,13:END:REM 177
60280 IF((PEEK(1020)*B)+PEEK(1021))
   >=((PEEK(1022)*B)+PEEK(1023))THEN
   GOTO 60330:REM 247
60290 A=(PEEK(1020)*256)+PEEK(1021)
   +PEEK(787):REM 208
60300 I=0:REM 160
60310 GOSUB60220:REM 215
60320 GOTO 60250:REM 214
60330 POKE646,1:PRINT"[CLR]"
   :END:REM 31
```

.....end of line.

UnNEW (C64)

by

Back when one of our previous editors told me about this program, it sounded good at the time. Upon reflection, I decided that no one could use this type of unNEW program. Why? You don't load it in memory to reserect an accidently NEWed. You load it before the accedentel erasure! Besides we already have RESURECT from the May 93 issue of *dH*.. So why is it here?

This program is run at the same time your program is run

```
0 REM *** 64 UNNEW
   PROGRAM ***:REM 2
1 REM * LOCATIONS
   820 TO 870
   *:REM 131
2 REM *[3 SPACE]ARE
   RE-LOCATABLE
   [3 SPACE]
   *:REM 161
3 REM [24 *]:REM 67
4 POKE820,
   PEEK(2049):POKE821
   ,PEEK(2050):REM 116
5 POKE822,PEEK(45):POKE823,PEEK(46)
   :POKE824,PEEK(47):REM 184
6 POKE825,PEEK(48):POKE826,PEEK(49)
   :POKE827,PEEK(50):REM 218
7 FORX=828TO870:READA:POKEX,A
   :NEXT:REM 126
8 DATA 173,52,3,141,1,8,173,53,3
   ,141,2,8:REM 218
9 DATA 173,54,3,165,45,173,55
   ,3,165,46:REM 83
10 DATA 173,56,3,165,47,173,57,3
   ,165,48:REM 200
11 DATA 173,58,3,165,49,173,59,3
   ,165,50,96:REM 188
12 POKE53280,.:POKE53281,.
   :PRINT"[CLR][15 CRSR DOWN]":REM 69
13 PRINTTAB(10)"USE SYS[CTRL 9]
   [CTRL 3]828[CTRL 7][CTRL 0] TO
   [CTRL 3]UN[CTRL 7]NEW":REM 109
14 FORX=1TO1500:NEXT:REM 1
15 REM * NOW GO ON WITH YOUR OWN
   PROGRAM *:REM 0
```

TipeRite 2.0 & dH Checksum (C64)

by James T. Jones

A checksum program allows the user to type a BASIC program and check the entry of each line by displaying a checksum value for colon (:) and following REM statement, and if upon pressing <RETURN> a checksum value of 115 is displayed, in reverse video in the upper left-hand corner of the screen, she can be reasonably certain that the line was entered correctly.

Type the listing and save it to disk as DH ML CHKSUM PRG. When the program of Listing 1 is RUN, a machine language (ML) file, OBJ.DH CHECKSUM, is written to disk that can be used to generate checksum values for different lines of a BASIC program.

Use of OBJ.DH CHECKSUM is easy. On a blank screen line, type:

```
LOAD"OBJ.DH CHECKSUM",DV,1
```

where DV is the device number of your disk drive, and press <RETURN>. Then on another blank screen line, type NEW and press <RETURN>. On yet another blank screen line, type SYS 828 and press <RETURN>. The checksum program will then be active. After you type each line of a published BASIC program ***WITHOUT*** the colon (:) and following REM statement, press <RETURN>. In the upper left-hand corner of the screen, a value in reverse video will displayed which can be compared to the published value. If the two values are the same, then you can be reasonably certain that the line has been entered correctly. If they are not the same, check the typed line against the published line, make any necessary changes and again press <RETURN>. Repeat this process until the correct checksum value is obtained.

You can SAVE a portion of a program that you have typed, then LOAD it when you are ready to resume the "type-in". Just deactivate the ML checksum program first by typing, on a blank screen line in Immediate or Direct Mode, SYS 828 and pressing <RETURN>.

If you want to compare the checksums of the lines of a BASIC program on disk to the corresponding checksums of a published listing of the program, deactivate OBJ.DH CHECKSUM as above, then LOAD the BASIC program. Activate OBJ.DH CHECKSUM again. Then list the program in groups of five lines, and press <RETURN> for each line and compare the displayed checksum with the published value.

10 PRINT"DIEHARD" will yield the same checksum value as 10PRINT"DIEHARD" or 10?"DIEHARD". A BASIC line with abbreviations for keywords will yield the same checksum value as the corresponding line without abbreviations.

```
1 REM COPYRIGHT 1994: REM 198
2 REM LYNNCARTHY INDUSTRIES,
   INC.[2 SPACE]ALL[3 SPACE]RIGHTS
   RESERVED:REM 113
5 REM JAMES T. JONES 2/10/1994:REM 226
10 REM DIE HARD BASIC PROGRAM FOR
   CREATING MACHINE LANGUAGE CHECKSUM
   PROGRAM:REM 53
20 PRINT CHR$(147)CHR$(5)CHR$(142)
   CHR$(8):REM 136
30 DV=PEEK(186):IF DV<8
   THEN DV=8:REM132
40 FOR I=828 TO 998:REM 70
50 READ X:POKE I,X:S=S+X:NEXT:REM 210
60 DATA120,162, 84,160,  3,173
   ,  4,  3:REM 194
70 DATA201, 84,208,  4,162,124
   ,160,165:REM 164
80 DATA142,  4,  3,140,  5,  3
   , 88, 96:REM 65
90 DATA 32,124,165,152, 72,169
   ,  0,133:REM 252
100 DATA251,133,252,166, 20,164
   , 21,134:REM159
110 DATA253,132,254,170,189,  0
   ,  2,240:REM 29
120 DATA 58,201, 48,144,  7,201
   , 58,176:REM 71
130 DATA  3,232,208,240,189,  0
   ,  2,240:REM 0
140 DATA 42,201, 32,208,  4,164
   ,252,240:REM 28
150 DATA 31,201, 34,208,  6,165
   ,252, 73:REM 196
160 DATA  1,133,252,230,251,164
   ,251,165:REM 5
170 DATA253, 56,253,  0,  2,133
   ,253,165:REM 177
180 DATA254,105,  0,133,254,136
   ,208,239:REM 113
190 DATA232,208,209,240, 42, 32
   ,210,255:REM 49
200 DATA165,253, 69,254,170,169
   ,  0, 32:REM 172
210 DATA205,189,169, 32, 32,210
   ,255, 32:REM 159
220 DATA210,255,169,146, 32,210
   ,255,169:REM 85
230 DATA 13, 32,210,255,104,168
   ,104,170:REM 84
240 DATA 24, 32,240,255,104,168
   , 96, 56:REM 170
250 DATA 32,240,255,138, 72,152
   , 72, 24:REM 83
260 DATA162,  0,160,  0, 32,240
   ,255,169:REM 163
270 DATA 18,208,194:REM 149
280 IF S<>23101 THEN PRINT:PRINT"ERROR
   IN DATA!":END:REM200
290 REM CREATE "OBJ.DH CHECKSUM" ON
   DISK:REM 80
300 SA=828:EA=998+1:REM ENDING ADDRESS
   PLUS 1:REM 185
310 H1=INT(SA/256):L1=SA-(256*H1)
   :H2=INT(EA/256)
   :L2=EA-(256*H2):REM 172
320 SYS57812"OBJ.DH CHECKSUM",DV
   :POKE193,L1:POKE194,H1
   :POKE174,L2:POKE175,H2:REM 29
330 SYS62954:CLOSE15:OPEN15,DV,15
   :INPUT#15,ER,ER$:REM 19
335 IF ER<>0 THEN PRINT:PRINT ER,ER$
   :PRINT#15,"I":CLOSE 15:END:REM 218
340 PRINT#15,"I":CLOSE15:PRINT:PRINT
   "THE CHECKSUM PROGRAM IS NOW
   ACTIVE.":REM 9
350 PRINT"SYS 828 TOGGLES PROGRAM OFF
   OR ON.":PRINT:REM 212
360 PRINT"A FILE HAS BEEN CREATED ON
   DISK.[2 SPACE]IN":REM 120
370 PRINT"FUTURE PROGRAMMING SESSIONS,
   TYPE":PRINT:REM 61
380 PRINT"LOAD"CHR$(34)"OBJ.DH
   CHECKSUM"CHR$(34)",DV,1"
   :PRINT:REM 215
390 PRINT"AND PRESS <RETURN>, WHERE DV
   IS THE":REM 53
400 PRINT"DEVICE NUMBER OF YOUR DISK
   DRIVE.":REM 155
410 PRINT"THEN ON A BLANK LINE,
   TYPE "CHR$(34)"NEW"CHR$(34):REM 63
420 PRINT"AND PRESS <RETURN>.[2 SPACE]
   SYS 828 WILL":REM 28
430 PRINT"TOGGLE THE PROGRAM ON OR
   OFF.":PRINT:REM 252
440 PRINT"IT IS RECOMMENDED THAT YOU
   TOGGLE":REM 232
450 PRINT"PROGRAM OFF BEFORE SAVING A
   PROGRAM.":REM 201
460 SYS828:NEW:REM 85
```

.....end of line.

Trader's Corner

Got something to trade? Looking for something? This could just be the place! To place a free want ad or trade ad, send your info -- whatcha got, whatcha want, and how to get a hold of ya -- to Trader's Corner, P.O.Box 392, Boise, ID, 83701-0392. If you want to place a classified (for sellers) they run $.50 a word. LCII is not responcible for the products and/or services listed here. If you get scammed contact the appropriate authorities -- we are not the FBI or the cops or attornies.

Wanted: C65, ZPM+, Term program for PET, MSD-100I Disk drive, commodore 9060 HD, manual for DPS1101, any Commodore Colt, PET Gazette, CD w/commodore programs -- any format. BLC, 816 W Bannock, Suite 502, Boise, ID, 83702.

Wanted: Used RUN Powerpak I & II, and Compute's Enhanced SID editor book and disk. Must be the enhanced version, so I can use it with the Stereo Editor by R. Stoerrle. C#011684, Roger Detaille, 80 Lalaande, Apt. 1, Ste. Therese, Quebec, Canada J7E 1Z8.

Wanted: Manuals, or copies of same, for the VIC-1541 disk drive and CBM 1902A color monitor. Also, a Pocket Writer 2 program disk with documentation and sources for other Digital Research Pocket programs. Edward S. Hickey, 40 Miller Hill Road, Dover, MA 022030-2332.

Wanted: Manual (or photocopy) for Outrageous Pages by Batteries Included. I have the original disks. I bought them with an old system, but the manual was not with them. Will pay any reasonable fee for copying and mailing. Phil Hoff, 34 El Cerrito, Chico, CA 95926.

Wanted: I have a Consultant Professional Data Base Management program, without the KEY. I never received it with the manual & the disk. A Batteries Included program. Willing to pay for it. Zigmond Nagy, Rt. 7, Box 300, #27, Harl TX 78552.

Wanted: November 1990 COMPUTE! magazine (w/Gazette type-in section). All re-RUN disks for RUN magazine. Need all 1985 issues of RUN magazine. March 1992 to final issue of RUN magazine. Need all magazines and disks for AHOY issues. Need "Commodore Microcomputers" magazines from first issue to April 1986, January 1987 to final issue. Need "Commodore Power/Play" magazines from first issue to Spring 1983, April 1983 to Nov 1984, Feb/Mar 1985, Dec 85/Jan 86, April/May 1986, Dec 1986. Need "Commodore Magazine" issues: Nov 1989 to final issue. RUN magazine: Mar, May, Sep 1984. #C011194, Christopher Ryan, 5296 Devonshire, Detroit, Michigan 48224-3233.

Wanted: The 28 May 87 version of CP/M 3.0+ for the C128. Many C128, REU, and 1581 users will have copies of this disk sitting around unused and forgotten. Please let me buy one. #C001699, Charles Jarvis, 3609 Kingdom Ct., Virginia Beach, VA 23452.

Wanted: 9060 hard drive (5 megs), 9090 hard drive (7-1/2 megs), 4040 dual disk drive, 8062 dual disk drive, 8280 dual disk drive, 8250 dual disk drive, 8050 dual disk drive, 2031 disk drive, super disk drive MSD (dual drive), JCT-1005 (5 meg hard dive), JCT-1010 (10 meg hard drive), Lt. Kernal 20 or 40 meg hard drive, SX-64 portable commodore computer, 1702 color monitor. Also looking for someone out there who wants to get rid of dead 64s and dead 8250 dual drives. #C009198, Jeff Long, 1057 Dewey Pl., Elizabeth, NJ 07202.

Wanted: Cataloguer for Label Wizard on Star 10X printer. Also trade any prg for 1520 printer. #C008590, Herbert L.J. Springer, 1 Elm Lane, Apt #1, Leetsdale, PA 15056-1226.

Wanted: Instruction manual for Geneology Database from ERO Systems Homecraft Software, San Jose, CA. Program is shareware. It gives an address to send for the manual, but ERO systems is out of business. Name price. #C0072202, Lee Peterson, 2118 So. 9th St., Council Bluffs, IA 51501-7344.

Wanted: Non-working plus/4s for spare parts. C#000655, Mike Zuckerman, 7109 298th St., Murdock NE 68407.

Wanted: Manuals/Information on a QDP hard drive model # QD200. The drive has two 8-inch floppy disk drives with a built-in hard drive. It could be related to the QDD featured in the Collector's Corner of the October issue of dieHard. I also need an interface cable (ribbon?) to connect a C64 to a TXP-1000 LQ GE printer, model #3-8100. The printer is equipped with a GE interface, model # 3-8150A for use with commodore and Atari computers. The interface has an edgeboard connector (24-pin male) like the user's port on the C64. GE stopped selling the printers in the 80s and can offer no help at all. I will gladly pay for any help or books/manuals/cables on these machines. C#006813, Eddie Honeycutt, P.O. Box 715, Big Stone Gap, VA 24219-0715.

To Trade: Any CP/M programs. I have a fairly good selection to choose from. C#005853, Jim Chance, 175 E. 600 S., Smithfield, UT 84335.

To Trade: I have a Star NX1001 printer I will trade for a working C128 or an Action Replay V6 cartridge and a 4-slot cartridge port expander or a Super Snapshot V4 or higher and a 4-slot cartridge port expander. C#009984, Alan Zank, 1854 Geryville Pike, Pennsburg, PA 18073.

Wanted: Okimate10 printer user's manual. Original or copy. C#003016, Robert M. Grahn, 209 Mechanic St., Foxboro, MA 02035.

All Kinds of Computers (303) 477-8941 c64-$45, 128-$65, 1541-$45, 1571-$65, 1702-$100, 1902-$140, Amiga 500-$150, Amiga 2000-$450, 64 for parts (nonworking)-$10, 128 for parts (nonworking)-$20 (plus shipping)

For Sale: Very complete and fine C64 system. Everything would cost over $2000 today. Write for details. $600 + shipping. Hubert Albachten, 6408 Meadow Creek Lane, Santa Rosa, CA 95409

For Sale: Commodore Magazines' RUN, Commodore, Compute!, Transactor, and Ahoy!, Power-play, etc. 477 Church Rd. Palmettor, FL 34221

UNUSUAL 64 SOFTWARE. GREAT FOREIGN-AMERICAN Utilities, Graphics, Hacker, ham and Arcade Games. 25 Adult Disks--full disk sides $2 to $5. $0.32 stamp gets new catalog. Home-Spun Software, POB 10674DH, Estero, FL 33928.

Huge selection of new and used Commodore 64 and 128 hardware, software, and accessories. 128D computers $189. Many hard to find items. Some Amiga, CDTV, VIC, IBM, Apple, and Macintosh also. Excellent prices. $1 for BIG list: Computer Bargain Store, 3366 South 2300 East. Salt Lake City, Utah 84109. (801) 466-8084 [4:00-7:00 P.M. Mountain Time Zone].

For Sale: Surplus of 64 and 128 hardware and software (no games). Send self addressed stamped envelope for list. Adolph Evans, P.O. Box 182, W. Friendship MD 21794.

For Sale: Dr. T's KCS128 Keyboard Sequencer starter pack. Used twice. $140.00 Mike Hackman, (410) 391-3967 after 6 p.m.

I have copies of both "Loadstar & Gazette" on "New" floppies. One 6 pack $7.00 or 3 128 dual sets same. Gregory Olive, 611 E. 12th St., Smackover, AR 71762-2124. (501) 725-3395.

Computer Recyclers - mid-America's last commodore dealer. Large selection of original (new and pre-owned) software under $20.00. Repairs are only $15.00 plus parts on most commodore hardware (excludes

Reader Survey 94

Each year we ask our readers about their systems and interests to get a better understanding of where to offer support. Tell us about your system(s)!

Thank you. In appreciation for your participation, we'll be drawing for a one-year subscription with accompaying *Spinner* disks from all Reader Surveys postmarked before October 15, 1995!

1. What computer(s) do you own/use?
    - ( ) **commodore** 64
    - ( ) Educator 64
    - ( ) Executive 64 (SX-64)
    - ( ) **commodore** 16
    - ( ) plus/4
    - ( ) **commodore** 128
    - video ram ( ) 16k ( ) 64k
    - ( ) **commodore** 128D
    - ( ) PET____________________
    - ( ) CBM____________________
    - ( ) SuperPET
    - ( ) VIC20
    - ( ) B128_______ ( ) B256______
    - ( ) P128_______ ( ) C128______
    - ( ) Other(s)________________
2. Drive(s)
    - ( ) 4040 ( ) 154___
    - ( ) 1541 ( ) c ( ) II
    - ( ) FSD-1 ( ) FSD-2
    - ( ) Indus
    - ( ) MSD 100I
    - ( ) 1571
    - ( ) 1581
    - ( ) CMD Hard Drive______Meg
    - ( ) CMD FD ( ) 2000 ( ) 4000
    - ( ) Datassette
    - ( ) other___________________
3. Monitor(s)
    - ( ) TV ( ) cclor ( ) b&w
    - ( ) monitor ( ) color ( ) mono
    - ( ) RGBI ( ) comp.
    - ( ) 40col ( ) 80col
4. Printer(s)
    - ( ) ______________________
    - ( ) Laser___________________
    - ( ) Plotter__________________
5. Memory expansion — size (K or Meg)
    - ( )BBGRam ______
    - ( ) 17xx ______
    - ( ) GEORAM ______
    - ( ) RAMLink ______
    - ( ) RAMDrive ______
    - ( ) BBU ______
    - ( ) other ______
    - ( ) VIC Super Expander 3k
    - ( ) other VIC expander(s)_____
6. Expansion board(s)
    - ( )______________________
7. Modem
    - ( )___________________baud_
8. BBS — name(s)
    - ( ) GEnie__________________
    - ( ) CompuServe______________
    - ( ) Delphi__________________
    - ( ) other___________________
9. Input device(s)
    - ( ) paddles ( ) joystick
    - ( ) mouse ( ) track ball
    - ( ) Koala pad/Animation Station
    - ( ) light pen
    - ( ) other___________________
10. MIDI
    - ( )________________________
11. Euphony ver__ ( ) + ( ) Jr
    - ( ) MIDI __________________
12. Stereo setup
    - ( ) SID Symphony
    - ( ) Internal second SID chip
    - address___________________
13. Favorite brand of disks
    - ( ) 8''___________________
    - ( ) 5.25''_________________
    - ( ) 3.5''__________________
14. Magazines/Disks subscribed to
    - ( ) *Commodore World*
    - ( ) *LOADSTAR*
    - ( ) *LOADSTAR128*
    - ( ) *TC128/64* ( ) disk
    - ( ) *RANDOM* ( ) disk
    - ( ) *Commodore CEE*
    - ( ) other__________________
15. What you use your computer for (rate usage 0 to 5, where 5 is a lot and 0 is never).
    - ____word processing
    - ____spread sheets
    - ____data bases
    - ____general productivity_________
    - ____music composition
    - ____music playing
    - ____telecommunications
    - ____adventure games
    - ____ arcade games
    - ____programming in __________
    - ____architectural drawing
    - ____viewing computer art
    - ____creating computer art
    - ____other__________________
16. What is your all time favorite...
    - ( ) game__________________
    - ( ) utility_________________
    - ( ) productivity_____________
17. Computer related interests?

    ____
    ____
    ____
    ____
18. What would you like to see more of in the *Flyer*? In the *Spinner*?

    ____
    ____
    ____
    ____
19. What don't you like about dieHard?

    ____
    ____
    ____
    ____
20. What's your favorite part of *dieHard*?
    - ( ) **PRG**
    - ( ) **PAPSAW**
    - ( ) **Q&A**
    - ( ) **REVIEW!**
    - ( ) **Archaic Computer**
    - ( ) **Rarities**
    - ( ) Editorials
    - ( ) Feature Articles
    - ( ) **Cyberspace Cowboy**
    - ( ) **Basic BASIC**
    - ( ) other___________________
    - ( ) no preference
21. Who's your favorite *local* **commodore** shop?
    - Name______________________
    - Address____________________
    - City/ST/Zip_________________
    - Phone_____________________
22. What's your *local* **commodore** User Group?
    - Name______________________
    - Address____________________
    - City/ST/Zip_________________
    - Phone_____________________
23. Gender
    - ( ) Male
    - ( ) Female
24. Age
    - ( ) 1-10
    - ( ) 11-14
    - ( ) 15-24
    - ( ) 25-39
    - ( ) 40-54
    - ( ) 55-64
    - ( ) 65 and up
25. Annual family income
    - ( ) $0-$9,999
    - ( ) $10,000-$19,999
    - ( ) $20,000-$29,999
    - ( ) $30,000-$39,999
    - ( ) $40,000-$49,999
    - ( ) $50,000-up

Please send to:

dieHard
Reader Survey
P.O.Box 392
Boise ID 83701

We'll publish the results in a future issue!

P.S. The Revolution Continues

A 1995 Update

by Dale Sidebottom

In *dieHard's Killer GEOS Issue* of January 1994, I wrote an article entitled *Commodore's PostScript Revolution.* I introduced you to new and exciting discoveries in PostScript printing. Now, one year later, I would like to update our progress as to where we are and where we are going in 1995.

Where we are is on the brink of a new beginning! This might be disputed by those who recall the *dieHard* Reader Survey in September. It reported that only 3% of commodore users use a laser printer (and, presumably, PostScript). Why so few? The reasons, I feel, are obvious -- the high cost of hardware and the woeful lack of software. But all this is beginning to change!

Consider first the cost of buying a PS/laser. (I use the term "PS/laser" to denote any laser printer with PostScript capability.) Back in 1987, the only compatible laser printer was the Apple LaserWriter which cost $8,000! By the time I purchased my Hewlett Packard LaserJet IIP in 1990, the cost had dropped to $1500. During 1994, several of you **commodore** laser-lovers have called me and bragged about setting yourself up for *half that amount!* (Keep those calls and letters coming.)

Obviously, the price of 300 dot per inch (dpi) laser printers has dropped dramatically in the last few years. These prices are only going to get better. Why? Because the new 600 dpi printers are now flooding the market. I predict that many current laser users will be selling their 300 dpi machines to purchase upgrades. Remember when you bought that 24-pin printer to upgrade from a 9-pin. The 600 dpi laser printers do a fine job at a higher resolution, but the 300 dpi printers still perform beautifully. If you can buy one for a song, don't walk, run!

Recently, Dave Snyder, the SysOp for my computer club's LUCKY BBS, went to a nearby computer fair where he witnessed avendor selling Epson 300dpi PS/Lasers for only $300! Apparently, the Epson company had dumped them to make way for their upgrades. What a deal!

My question to you is this. If you could buy a quality PS/laser for $300-$500, would you be interested in learning more about PostScript? Well, those prices are coming and may, indeed, already be here!

The second problem I mentioned was the lack of software. When GEOS 2.0 and **geoPublish** hit the market back in 1987-88, Berkeley introduced **geoLaser** and **geoPublaser**. These two were the only programs which could print PostScript from a commodore. Seven years later, they still are!

The well-informed will protest, "What about Jim Collette's **PS Processor**?" Even Jim will tell you that **PS Processor** is an extended-feature **geoPublaser**-type program. It works *only* with **geoPublish** files and *only* within the GEOS environment. Frankly, many commodore users are not GEOS users. They do not want to get *gooey* just to print PostScript.

This lack of software support is felt in other ways as well. In last year's article, I illustrated some of the great features PostScript offers which GEOS never touches. Simple pleasures like rotating text and graphics or downloading non-resident fonts will forever be unavailable to you and I as long as we are locked-in to the current software.

For this reason I decided to learn how to write PostScript code myself. I paid $195 in annual dues to the Adobe Developers Association (ADA), apparently becoming the first commodore user in the nation to do so.

In June, I began to tread the tortured trail of trying to find out how to download non-resident fonts to a laser printer. This tale is too long to be reviewed here, but it is detailed in an article I wrote, *Tough Tymes in Commodore's PostScript Purgatory.* It has been published in several user club newsletters and can be found on GEnie under the filename, TOUGH TYMES.

In the end, what I discovered is that downloading non-resident fonts is really not the problem. Downloading is the problem! Please keep in mind that PostScript printing is nothing mysterious. It is simply a clean dump of a true ASCII (PostScript-coded) file to a compatible printer. Unfortunately, I could find nothing in the commodore PETASCII world that would perform so simple a task, particularly in GEOS. My gratitude goes to Maurice Randall, author of **GeoShell**, for providing an answer. He created a COM file (really a command module) to be used within **GeoShell**. This program, appropriately called **laser**, will download a pure PostScript file of any size to a laser printer, including non-resident font.

All of this is great, but as I expressed earlier, it is only the beginning. For seven years, commodore users have been limited to **geoWrite** and **geoPublish** utilities within GEOS. Don't misunderstand me; these programs perform magnificently, but the assumption that all PostScript must be printed from GEOS is magnificently ludicrous! We do not need GEOS simply to send a true ASCII file to a printer.

What we need are more commodore programs that will utilize the vast potential within PostScript. I am working to get the ball rolling by writing two programs which I hope will be completed before you read this article. The first is called **LasrLabls**. It is designed to print out address files on labels in any number and in any configuration.

The second program will be called **PS Pre-TEXT**. It is a PostScript prologue which is required by the PS/laser before you send down a text file in true ASCII format. These days, almost any **commodore** word processor can create a true ASCII text file. By putting **PS Pre-TEXT** in front or your text file, you can print it out in PostScript, either on a PS/laser printer at home or at a local print shop, like Kinko's. Needless to say, I expect both of these programs to work equally well inside or outside of the GEOS environment.

Meanwhile, I hope you will consider making PostScript a regular part of your **commodore** experience. While I work to expand your access to PostScript products, think of PostScript in terms of that hair-care ad on TV. Remember the one that goes, "...costs a little more, but you're worth it!" For, indeed, you are!

And so is your commodore.

[Editor's note: If you wish to contact Dale Sidebottom, his address is 1001 Estate Circle, Georgetown, IN 47122-9002. His phone is (812) 951-3588. His E-mail address on Internet is daleside@iglou.com]

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READY.
■
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WS NEWS NEW

C64S

Kirkland, WA - February 2, 1995 - Seattle Lab, primarily a provider of system and data administration tools for Microsoft's Windows NT, is enjoying an ever increasing shipment rate of its Commodore 64 emulator, **C64S**. Being their only departure from tools to *toys*, the DOS-based product is extending the popularity of games designed for the Commodore 64. The quantity of games available for the C64 continues to be the largest of any computer. User comments include: "I played **Paradroids** on my laptop this afternoon while parked in my car. Now that's living!...Got to go, time to play **Lode Runner**. (I am so happy you can't begin to comprehend it.)," and "I am just thrilled that someone took the time and effort to write a true C64 emulator for the PC...how I've missed my old faithful C64."

Seattle Lab's **C64S** is a full-featured C64 emulator that allows software, particularly games, originally written for the Commodore 64 to run on a PC. **Impossible Mission**, **Out run**, **Chop Lifter**, **Ghost Busters**, **Go for the Gold**, and **Bungling Bay** represent but a few of the many popular games enjoyed by C64 users for years. The software is shipped with a 1541/71 diskette adapter cable and software manual.

Minimum system requirements are a 486 (500K RAM), VGA display (register compatible), DOS 3.0 or newer. Commodore features supported include: sound cards such as Gravis Ultrasound, Sound Blaster, Pro Audio Spectrum and Covox or compatible DAC, PC joystick (1 or 2), tape/floppy interface.

A single-user demo version of **C64S** is available on Seattle Lab's World Wide Web site (http://www.seattlelab.com), FTP site (frp.seattlelab.com), and its bulletin board at (206) 827-5580. The price is $69.95 (US). This includes the emulator software, a 4 ft. diskette adapter cable, manual, and North American postage. Mail checks or money orders to Seattle Lab, 214 1st Street, Kirkland, WA 98033. Call (206) 828-9001 for Visa/MC orders. Add $5.00 (US) for orders outside North America.

Tenex

Editor's note: The following is the text of a letter sent to one of our writers, Noel Plank, from the CEO of TENEX.

Thank you for your order. Regretfully, we must return this order to you unfilled. We have discontinued our catalog operations and will be concentrating our resources in our local market and expanding our educational market throughout the midwest.

We thank you for your patronage and wish you many years of happy computing!

Sincerely,

Joseph Montagano, CEO
TENEX Computer Express
Mishawaka, Indiana.

Tenex was one of the first mail order places I ever ordered ***commodore*** *stuff from. It saddens me to see them gone from our market, I'd hoped they would always be there. TENEX will be missed.*

Landmark

Recently, Paul Murdaugh, the author of **The LandMark Series** and other software, has left the commodore market. His software and the rights to it were bought by James Robbins. Parsec has become the exclusive distributor of **The LandMark Series**. The software will also be available through our authorized dealers.

Unfortunately, Paul's records were not complete and we have not been able to contact all of his former customers. Any of his customers that have not been contacted and are interested in the new upgrades being offered should contact Parsec by August 1995 at the address below and include a photocopy of their canceled check, front and back. All other inquiries can be sent to our POB address. GEnie members can contact us at the e-mail address "JBEE". Thank You.

Parsec, Inc.
P.O. Box 111
Salem, MA 01970-0111, USA

Yours,
John Brown, President

Microstorm

Dear Editor:
I am sorry to announce that Microstorm Software will be quitting business effective soon.

I have an overwhelming amount of **Risers and Sliders** still in stock. Anyone who would like a copy may send an envelope with one dollar's postage to me, Daniel Lightner, 402 3rd Ave. NE, Sidney, MT 59270 and I will give them a copy of **Risers and Sliders**. This offer only lasts until we have exhausted our surplus.

We also will continue to produce our PD and Shareware Disk as long as it generates interest but we require $3.00 for this.

Since the birth of Microstorm 2 1/2 years ago we have generated interest from every corner of the globe and we appreciate everyone who has dropped us a note. These people make up the **commodore** world and they are a small fraction of the real diehards and there are thousands more like them. My words to all are hold on to your 8-bit dreams.

Daniel Lightner
Microstorm Software
402 3rd Ave. NE
Sidney, MT 59270

Compute's Gazette

Compute's Gazette has ciesed publishing with the February 1995 issue being thier last issue. Subscribers with issues remaining will receive dieHard the Spinner for commodore 8bitters.

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